

Preface

Ideas on strategy, mat tactics, drills, training regimens, and other crucial areas make this book an invaluable guide to winning wrestling. Novel concepts—far in advance of anything found in other texts of a similar nature—are its most distinguishing feature.

The author's many years of wrestling experience as a teacher, coach, athlete, and official have been compiled in new frontiers to this ancient sport. Intense research on national wrestling champions, covering a period of sixteen years, combined with the author's personal association with prominent coaches, provides the basis for many of the revolutionary concepts presented.

The book is ideally suited to meet the needs of coaches, those planning to become coaches, athletes, athletic directors, and physical education teachers.

It is unequaled as: (1) a textbook for undergraduate theory courses in coaching, (2) a reference source for beginning coaches, (3) a resource for experienced coaches wishing to improve their programs, and (4) an aid to physical education teachers and athletic directors interested in gaining a better understanding of the dimensions of the sport.

There are six sections to the book. Part I is an introduction to the theory of wrestling. An academic understanding of basic truths provides the foundation for a practical philosophy of wrestling based upon the cultivation of powers of discrimination.

Part II highlights fundamental principles of coaching. Coaching is presented as both an art and a science with only the latest and most prominent methods being discussed.

Part III concentrates on the scientific approach to training. Valid training methods are separated from those which are purely traditional. Emphasis is placed upon a complete, detailed description of unique innovative ideas in training.

Part IV discusses wrestling from the neutral standing position. Sound procedures are presented for taking down an opponent, based

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upon an analytical study of the strengths and weaknesses of various stances.

Part V is a presentation of findings of several years of research. Criteria, formulated from this research, are offered as a basis for selecting only superior escape and reversal techniques.

Part VI provides insight into determining which riding techniques are most effective. A basis for critically judging and evaluating the worth of various methods of maintaining control is provided.

As a whole, this book is a compilation of many of the author's published and unpublished writings. As such, a certain amount of duplication was inevitable. This was avoided wherever appropriate deletions could be made without jeopardizing the quality of the presentation.

Introduction

All too frequently, authors of wrestling texts are satisfied with presenting a proliferating description of how each technique is performed. They fail to aspire to an explanation of the intellectual, rational side of why certain movements comprising each of these techniques have to be performed as they are described in order for the desired results to be realized. Ed Onorato of Penn State University recognizes this glaring omission when he states (see article, "Wanted: Systematized Wrestling Techniques," in January 1970 *Scholastic Coach*):

The last four or five years have seen a proliferation of books on wrestling techniques. Though welcomed by coaches, these texts leave much to be desired. They are little more than photo albums or dictionaries of moves; they don't proffer the kind of knowledge needed for intelligent coaching. . . .

The books may be likened to coaching clinic lecturers who fail to explain WHY certain moves should be executed in a particular way. As a result, the new coach, looking for moves to teach, doesn't know which are suitable for him and which must be taught together in order to develop the needed continuity.

In general, little effort has been made in most texts to point out the "why" in addition to the "how" of wrestling. Since emphasis has been primarily in the area of "how," the attention of coaches has naturally been focused on the physical properties of performance with the "why" not being given the emphasis it deserves.

While there is scarcely any technique that does not succeed at least occasionally, many are nevertheless of doubtful value: they may work against beginners and weak opponents, but break down against stronger, more experienced foes. No wrestler equipped with an inadequate repertoire of skills can go anywhere in wrestling.

Most books explain only how particular techniques are performed. They fail to provide insight into the reasons for the discriminating ways the techniques are used. Very little can be gained toward the

achievement of a sound wrestling program geared to producing champions if there is no practical explanation for the way in which the techniques must be executed.

The scholarly basis that bridges the existing gap between how wrestling skills are performed and why they are performed as suggested has only sparsely appeared in recent literature. This gap poses one of the most serious problems to successful coaching.

The contemporary coach is no longer solely an action-oriented individual interested in teaching only that which takes on the how-to syndrome. He is concerned about the "why" as well as the "how." His success in coaching is dependent upon the acquisition of understanding as well as knowledge. It is predicated on his ability to organize and conduct a well-planned wrestling program founded upon knowledges and understandings. Combining the how-to and why-of approaches to wrestling provides him with the insight necessary to facilitate foresight.

Knowledge may be defined as awareness or cognizance of information. This information concerns the details, facts, ideas, and truths that surround performance of a technique. Knowledge about "what" the technique is and "how" it is performed provides the basis for a primary level of intelligence. While essential to the higher orders of reason, this alone is inadequate for planning a sound wrestling program.

Intelligent coaching involves more than just this elementary knowledge. It requires understanding. Understanding denotes a higher mental process. It implies the ability to grasp the significance of this knowledge, to more fully realize relationships, and to apply discriminatory powers where they are concerned. It implies insight into existing relationships. They are aware of the significance of possessing more than basic knowledge. They do not accept knowledge as being terminal. Instead, they think beyond the "how" of something in order to more fully conceptualize the relationships and interrelationships that exist where none seemed to exist before. They cultivate the ability to recognize significant problems and work toward possible solutions. They are then able to make wise judgments and decisions based upon available information and interpreted within the scope of certain principles dependent upon a set of basic assumptions. In other words, the coach who attempts to explore and find answers to a multitude of questions is fulfilled in his efforts when he has developed the ability to reason.

Once this power to recognize relationships is possessed, the complex ability to judge the relevance of the various facets of problematic

situations will develop. The ability to reason and understand provides the basis for solving these problems. The ability to separate the relevant from the irrelevant is invaluable to a coach; to do this, he needs to be equipped with something resembling a system of wrestling.

The tendency of texts to convey knowledge and knowledge alone is unfortunate since the development and progressive growth of the sport is dependent upon the conveyance and acquisition of understanding in addition to knowledge.

Until authors are willing to go beyond the "how-to" level of presentation and give reasons for why techniques are to be done in certain ways, wrestling will suffer. When they are willing to give the why-of-syndrome priority over the how-to-syndrome, something of significance will be gained in the pursuit of understanding the sport of wrestling in greater breadth and depth. Confusion will be dissolved and replaced by enlightenment. Inconsistencies will be pinpointed and eliminated. Bewilderment that accompanies ignorance will be alleviated. Action initiated with purpose rather than endeavors resulting from aimless floundering will be realized. These can and will occur once a concerted effort is made to write books that attempt to enlighten the reader through the conveyance of both knowledge and understanding rather than just knowledge alone. This is today's most crying need in wrestling.

This book is the beginning. It has been written for the purpose of conveying understanding. The contents provide insights into some of the fundamental ingredients necessary for conducting an intelligent wrestling program founded upon a technical application of both knowledge and understanding. It expands the present boundaries that have confined the potential of the sport of wrestling.

Part I
WRESTLING PHILOSOPHY

1 A System of Wrestling

A COACH COMMONLY BECOMES RECOGNIZED AS SUCCESSFUL WHEN HIS team wins a conference championship or one of his athletes places first in the state finals. In either case, he receives a considerable amount of praise and a position of prestige among his professional peers. However, whether he was truly responsible for the quality of performance that resulted in this recognition is sometimes questionable. The team or the star athlete may have earned championship status in spite of rather than because of the coach's efforts. The supreme test is generally the consistency the coach has in producing champions.

The lack of a systematized body of techniques is the largest deterrent to a coach's success in producing consistent winners. The number of wrestling techniques reaches nearly 10,000. Such a large volume and variety frequently leaves a coach somewhat confused and bewildered. The number of possibilities is far in excess of what can either be taught to or learned by one individual.

A completely random selection of techniques would be foolish, since this would do little to prepare wrestlers for top-notch competition. Yet, in his attempts to make the best selection, a coach often flounders and ends up having to be satisfied with a hodgepodge of unrelated wrestling holds.

The question of which techniques yield the highest returns can be a difficult one to answer. Obviously, some techniques are superior to others. Each has a varying chance of success and failure. Of all the techniques that could be selected, each will be effective at least a percentage of the times it is employed. Some, however, can be executed successfully only against novice opponents of poor caliber. When attempted against stronger, more experienced foes, they prove to be ineffective. Others are of doubtful value. Their occasional success is overshadowed by the risk taken in losing points when they are countered. The chances of these techniques losing points for the wrestler attempting them are high.

A certain amount of discretion must be exercised in the selection of techniques. In order to fulfill his efforts to produce winning teams, the coach has to consider not only those techniques which have the greatest chance of gaining points, but also those which are the most likely to result in no points being lost if they are successfully countered.

The indiscriminate selection of techniques is avoided when a contemporary and comprehensive system is adopted. Such a system provides a basis for recognizing relationships among and between the factual elements in situations based upon observed and logical consistencies. It provides the means for judging the worth of any technique, prior to its acceptance or rejection.

A sound system of wrestling is founded upon the premise that there are criteria available for discriminating among the worth of various techniques. In order to make wise selections the performance aspects involved in the execution of each technique must be carefully studied and evaluated. The performance of any one requires the execution of a number of specific movements. The sum of these movements when put together comprises the total pattern of the particular technique. In executing each individual movement, the performer must place his body into various positions. A technique is only as good as the weakest position that must be assumed by the wrestler in order to properly execute the movements that make up the technique. No technique should be selected that requires the wrestler to make a movement that will make it necessary for his shoulders or scapula area to come into close or actual contact with the surface of the mat. The proximity of the shoulders to the mat's surface should be taken into consideration in the evaluation and final acceptance or rejection of each technique.

All techniques are distinct from one another and can therefore be classified into a hierarchical arrangement; such an arrangement separates those which are superior from the rest.

The poorest of all techniques are those which for proper execution require the wrestler to position himself—even momentarily—on his back. In this position, the wrestler is in the greatest danger of losing points or being pinned.

The next level of techniques of doubtful value are those which require the wrestler to assume a prone position. A wrestler on his stomach is half-pinned.

Next, are those techniques employed while the wrestler is lying on his side. In this position, a wrestler finds it very difficult to generate sufficient force to escape and is least able to resist a force applied perpendicular to the long axis of his body.

The fourth least desirable position is that of sitting on the buttocks—a precarious and unstable position. Once pulled or pushed to one side, it is difficult for a wrestler to return to a sitting position.

The next level of techniques necessitates the wrestler being on one or both knees. It is superior to the previous four, but is still of questionable merit. The weakness of this position is its lack of mobility. A wrestler on his knees cannot move very fast.

Rules are such that it is foolish to assume one of the above positions. Techniques employed from these positions are risky. Odds favor the wrestler who avoids them. For reasons of speed, conservation of energy, mobility, power, and economy of movement, a wrestler is wisest to work from a position on his feet.

The safest position is standing. While standing, the wrestler's scapula area is furthest from the mat. The further the shoulders are from the mat, the better are the chances of winning. While standing, the wrestler is more mobile than he is in any of the other aforementioned positions. He has only his own weight to support, which makes it possible for him to move faster than he could ever hope to do in any other position.

Techniques vary in their effectiveness. Those which do the most to enhance the chances of winning should be chosen. Making selections from among the thousands available can be simplified by the empirical application of certain criteria. Then a limited number of superior techniques can be placed into an ordered and meaningful system of wrestling. The system is founded upon the concept that techniques requiring movements which place the wrestler in a precarious position are inferior and should be avoided.

2 Criteria for the Selection of Escape and Reversal Techniques*

THE SUCCESS OF A WRESTLING TEAM DEPENDS LARGELY UPON THE COACH'S ability to select and teach effective escape and reversal techniques.

The common practice among coaches is to adopt the techniques which served them best as competitors. While most techniques will succeed once in a while, many are of doubtful value. They may work against beginners or poor opponents, but will break down against stronger more experienced foes. The indiscriminating coach often assumes the attitude that "IF IT WORKS USE IT."

The coach who is truly interested in getting the most from his investment in time and effort won't be satisfied with this philosophy. He recognizes that while most techniques will work part of the time, it is better to concentrate on the moves that will work effectively against the toughest of opponents.

Obviously, therefore, a certain amount of discretion is necessary in selecting techniques.

There is no shortage of opinions (in articles and books) about which escape and reversal techniques are most effective. The authors are fairly dogmatic about their beliefs. But all of them cannot be right, nor can all of their techniques be superior. Many of these authors fail to advance supporting evidence or reasons for the inclusion or omission of various techniques. Others often support their selections only by ambitious generalizations.

Unfortunately, much of the research findings have been contradictory. Perhaps it is this inconclusiveness which accounts for the lack of any sound bases in the selection of effective techniques. If no list of recommended techniques can be said to be completely accurate, none can be said to be completely wrong.

* This article reprinted with the permission of *Scholastic Coach*, January, 1970.

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Several factors may account for these conflicting results in so much of the research. The investigators may be too superficial in their research observations; or perhaps, the variables of the techniques have not been related to the proper execution. I contend that valid criteria can be established by relating the height at which a technique is employed to the wrestler's position after an unsuccessful effort.

It is a well established fact that the most undesirable position for a wrestler is on his back. This position places him in the greatest danger of losing points or being pinned.

Most authorities will agree that the safest position is standing. That places the wrestler's scapula area furthest away from the mat. This may be the key to the whole problem of selecting techniques.

The following criteria may now be offered as a basis in selecting escape and reversal techniques. They are the body positions, in their order of importance, that the wrestler should avoid assuming: (1) on the back, (2) on the stomach, (3) on the side, (4) on the buttocks, and (5) on one or both knees.

The coach should refer to these criteria in weighing all escape and reversal techniques. If a boy has to momentarily assume any one of these five positions in order to properly execute a technique, that technique should not be selected.

If on the other hand, the technique does not require the boy to place himself in one of these five positions, it should be considered a good maneuver and added to the teaching list. Though certain techniques can be employed from each of the five positions, none is preferable to something done from standing. This is simply a matter of percentages: the odds favor the wrestler working from standing. While points generally will be lost on a mistake made within one to four inches of the mat, few, if any, points will be lost on any mistake four feet above the mat. Once this set of criteria has been adopted, the following principles must be honored.

If broken down to his side or stomach, the wrestler should get back to all fours, free his legs and stand up. A wrestler who is flat on the mat is half-pinned. Once he escapes from his back to his stomach, he should recover to his knees and then to his feet.

The idea is to get on one's feet as soon as possible. The further the wrestler can keep his shoulders from the mat, the harder it will be for his opponent to score points.

In a standing position, the wrestler has two distinct advantages that he does not have while in any of the aforementioned five positions. First, he is more mobile. He has the ability to move fast. He has extended his capacity for maneuverability far beyond what it would

be in any of the five "TO BE AVOIDED" positions.

The other advantage of the standing position is that he is carrying only his own weight and not that of his opponent. This assists him in moving faster and quicker while shifting his body weight and centering his balance to cope with the circumstances at hand.

The proper selection of techniques can prevent wrestlers from using maneuvers that can permanently impede their progress. The coach who maintains an attitude of "if it works use it" can justify almost any technique regardless of shortcomings, and he may wind up stunting the growth of some of his wrestlers.

Under pressure these wrestlers will turn to these ineffective moves again and again, regardless of failure. No boy equipped with such an inadequate repertoire of skills can go anywhere in wrestling. Coaches have a definite responsibility to teach the most effective techniques.

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Critical Analysis of Wrestling Techniques Employed in National Championships

TEACHING THOSE TECHNIQUES WHICH HAVE THE GREATEST CHANCE OF gaining points while being least likely to lose points if successfully countered is a principal concern of wrestling coaches. The large number of possible techniques available has made selection one of the most difficult problems confronting a coach interested in constructing a sound wrestling program. A lack of adequate information has, in many instances, resulted in poor selections. While every technique is naturally effective part of the time it is employed, some result in the loss of more points than are gained.

Any coach suggesting the superiority of one technique over another has little to support the claim other than personal experience. Considerable disagreement exists as to which techniques are the most effective. Consequently, the author conducted a critical analysis of escape and reversal techniques in the hope that it might provide a starting point for agreement.

The need to establish a scientific base for the selection of wrestling techniques has been recognized by many past and current researchers. Within recent years, several studies have been conducted attempting to determine which wrestling techniques have been most successfully used by champions. Those techniques which were used most successfully were the ones which most often resulted in gaining points. All these studies, however, fail to take into account the effectiveness of the techniques—whether the wrestlers did or did not lose points when the techniques were unsuccessful. A technique was judged to be effective when it proved successful a great percentage of the times it was attempted. Little consideration was given to the percentage of attempts that resulted in no loss of points the times these successful techniques were countered.

Those techniques which had an equal percentage of success were in many cases vastly different in their relative effectiveness. The results of these previous studies are therefore of limited value.

A study of National Collegiate Athletic Association Championship Wrestling was conducted to provide more accurate information on the relative effectiveness of most escapes and reversals. The data collected were used to establish a basis for predicting which techniques could be employed with the greatest chance of success while at the same time providing the greatest assurance that they would result in no loss of points if unsuccessful.

This study focused attention on escape and reversal techniques employed in national wrestling championships. Films taken of national collegiate championships were viewed and data collected on a recording form similar to the following:

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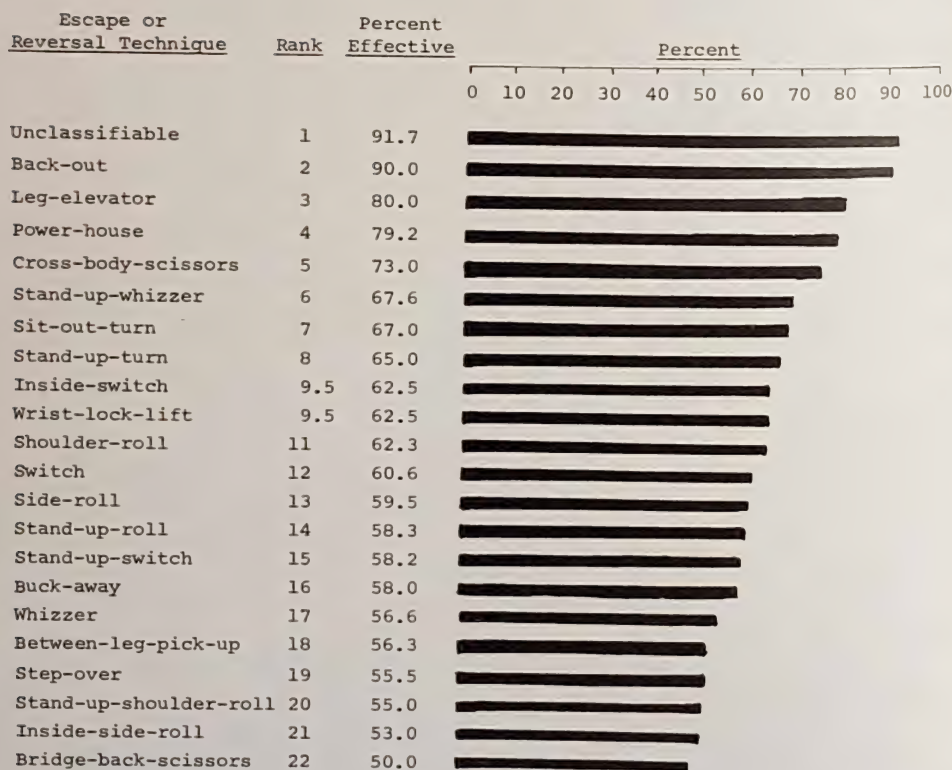
SCORE CARD FOR RECORDING DATA

Escape or Reversal Technique	Points Gained	Number Points Gained or Lost	Points Lost
Back-out			
Between-leg-pick-up			
Bridge-back-scissors			
Buck-away			
Cross-body-scissors			
Inside-side-roll			
Inside-switch			
Leg-elevator			
Power-house			
Shoulder-roll			
Side-roll			
Sit-out-turn			
Stand-up-roll			
Stand-up-shoulder-roll			
Stand-up-switch			
Stand-up-turn			
Stand-up-whizzer			
Step-over			
Switch			
Whizzer			
Wrist-lock-lift			
Unclassifiable			

The recording form was kept as simple as possible so it could be easily understood and interpreted. Tally marks were placed opposite the appropriate techniques, and the technique was classified as a genuine attempt only if countered or successful. In this way, faking or feinting could be differentiated from bonafide attempts.

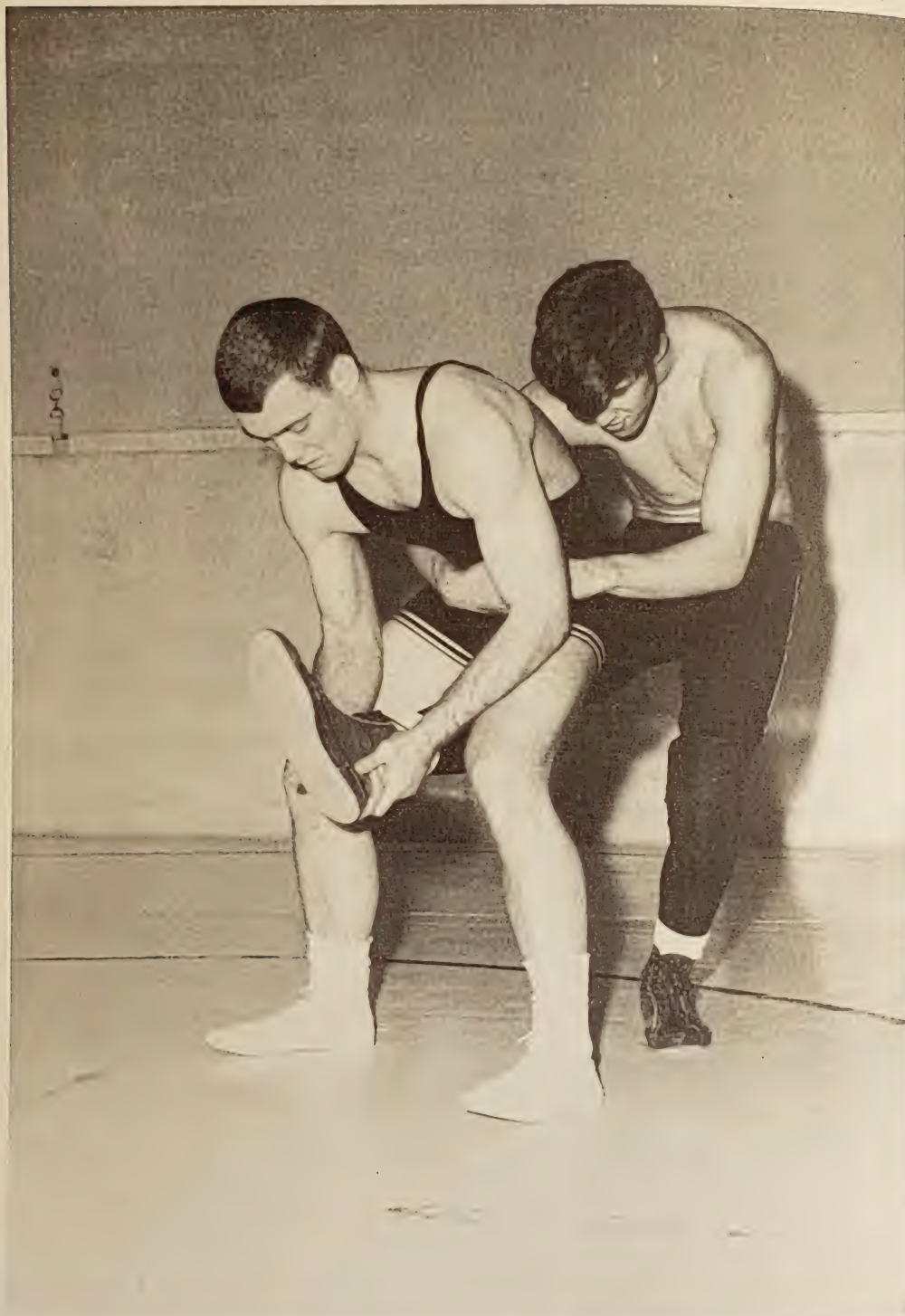
After the data were recorded, a cumulative frequency of attempts, according to categories, was compiled on each technique. These cumulative data were then organized and recorded onto the following graph according to rank and relative effectiveness. When the percentages of effectiveness of two techniques were identical, the technique with the larger percentage of attempts resulting in points being gained was considered the more effective.

Rank Order by Percent of Effectiveness of Escape
and Reversal Techniques Employed During the
National Championship Wrestling Matches





1A Back-Out



2A Between-Leg-Pick-Up

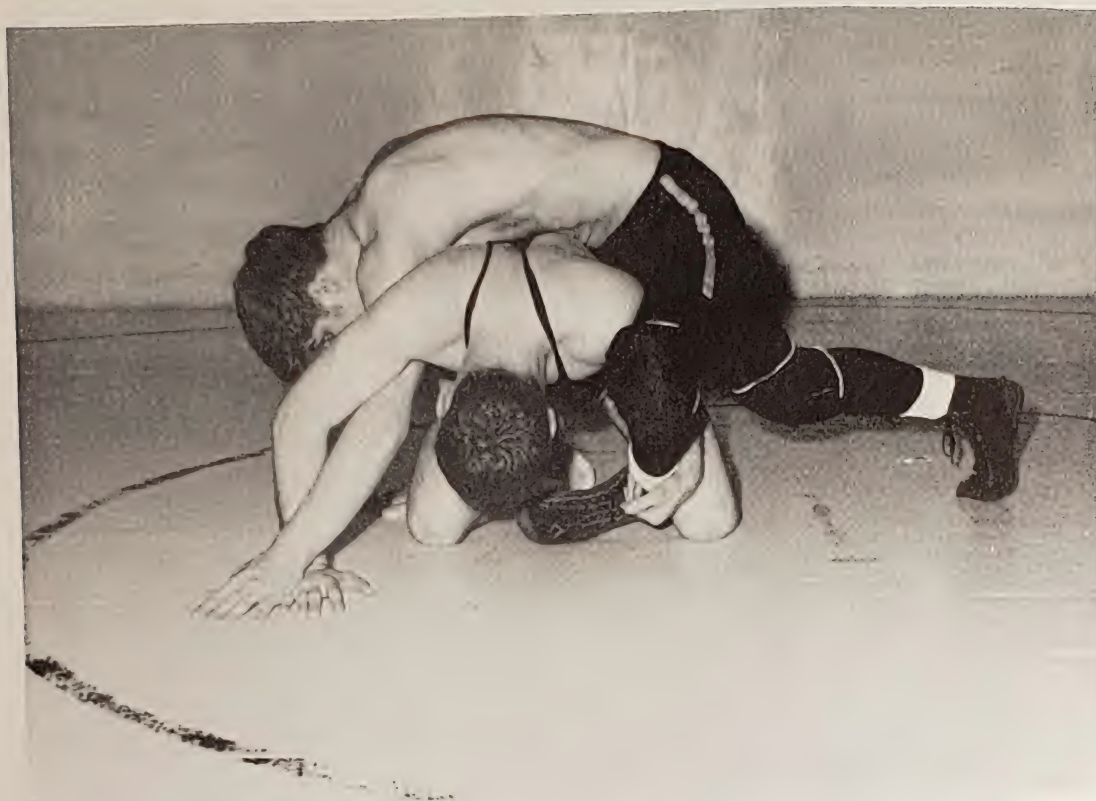




3A Bridge-Back-Scissors



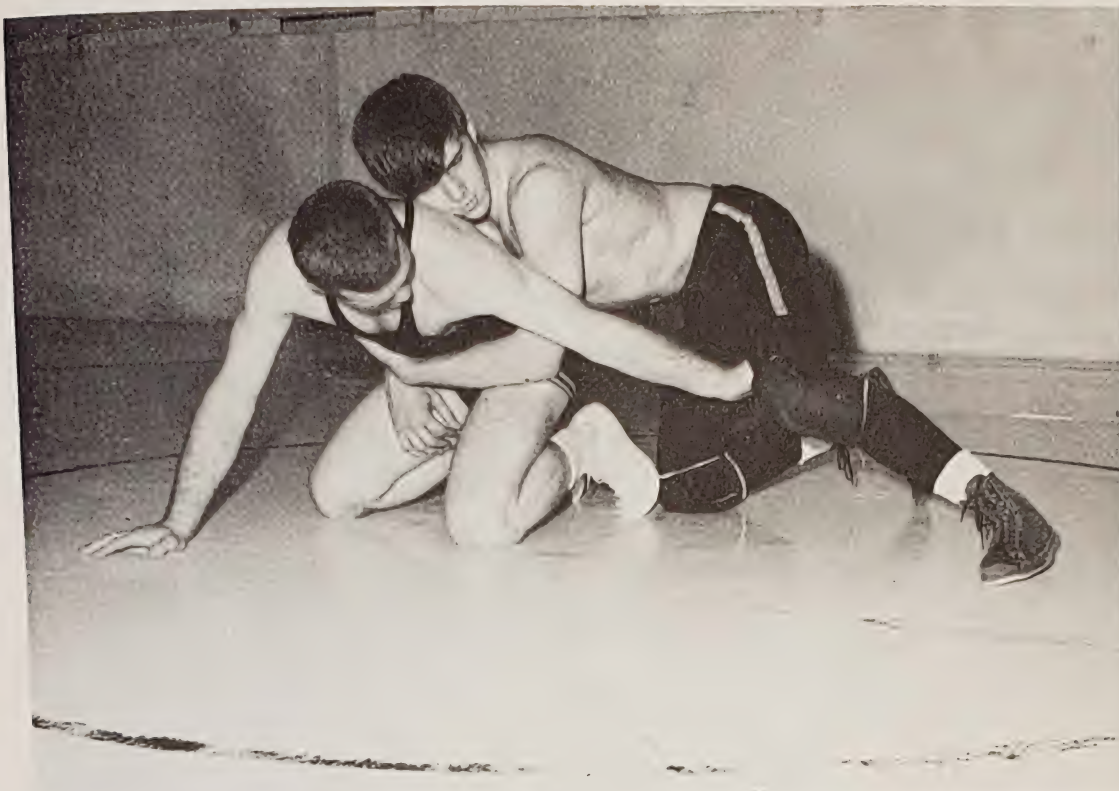
4A Buck-Away



5A Cross-Body-Scissors



6A Inside-Side-Roll



7A Inside-Switch



8A Leg-Elevator



9A Power House



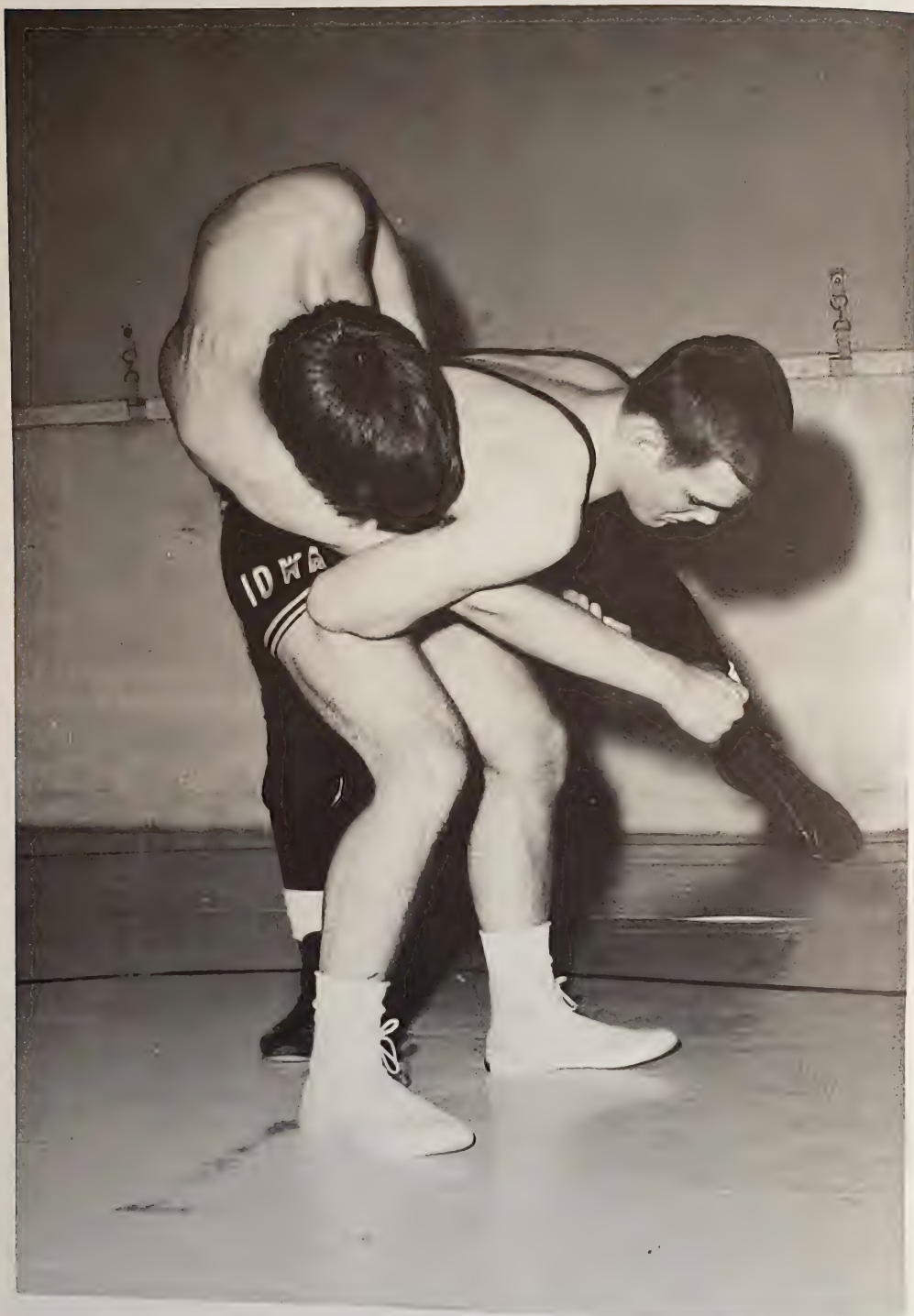
10A Shoulder-Roll



11A Side-Roll



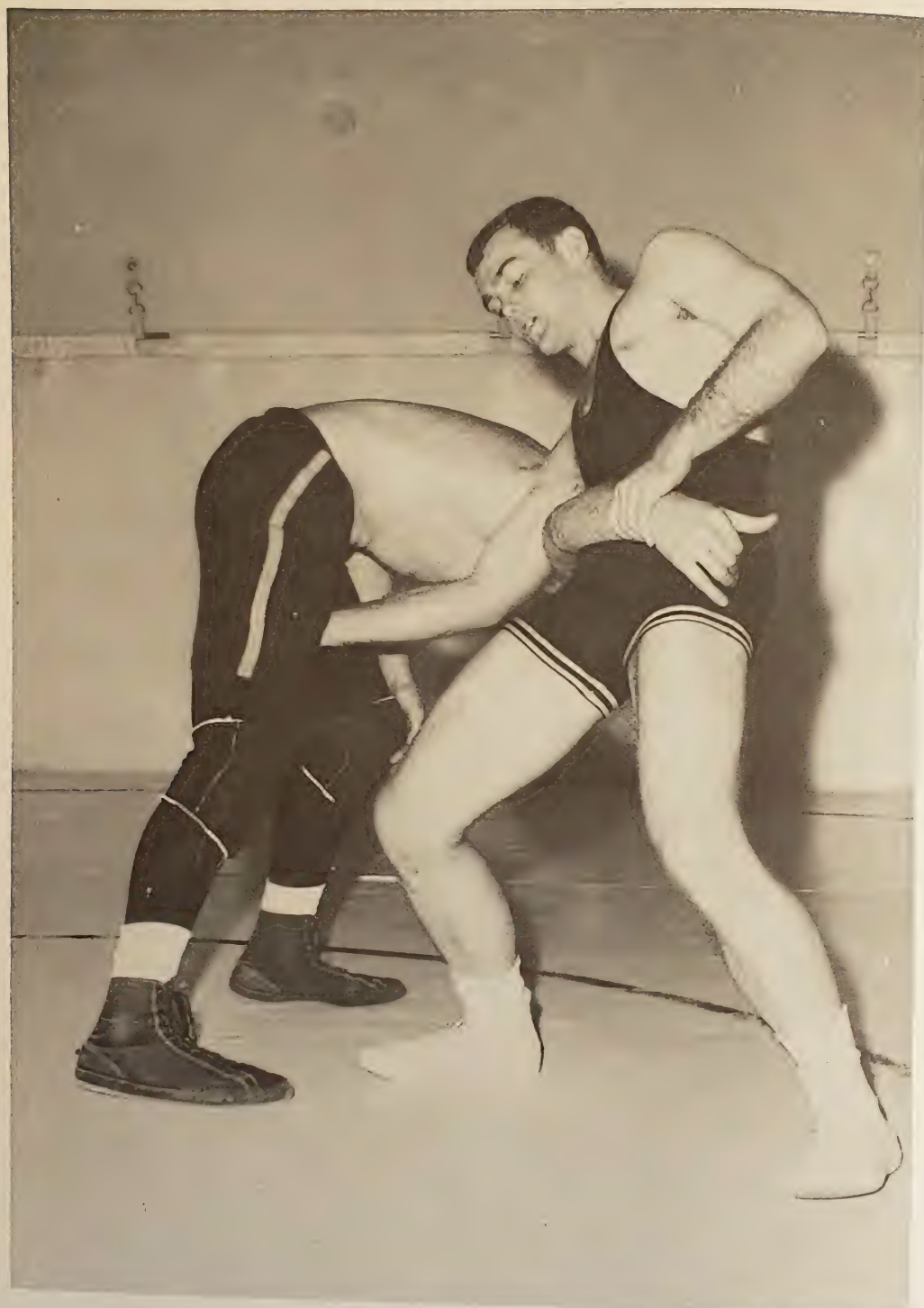
12A Sit-Out-Turn



13A Stand-Up-Roll



14A Stand-Up-Shoulder-Roll



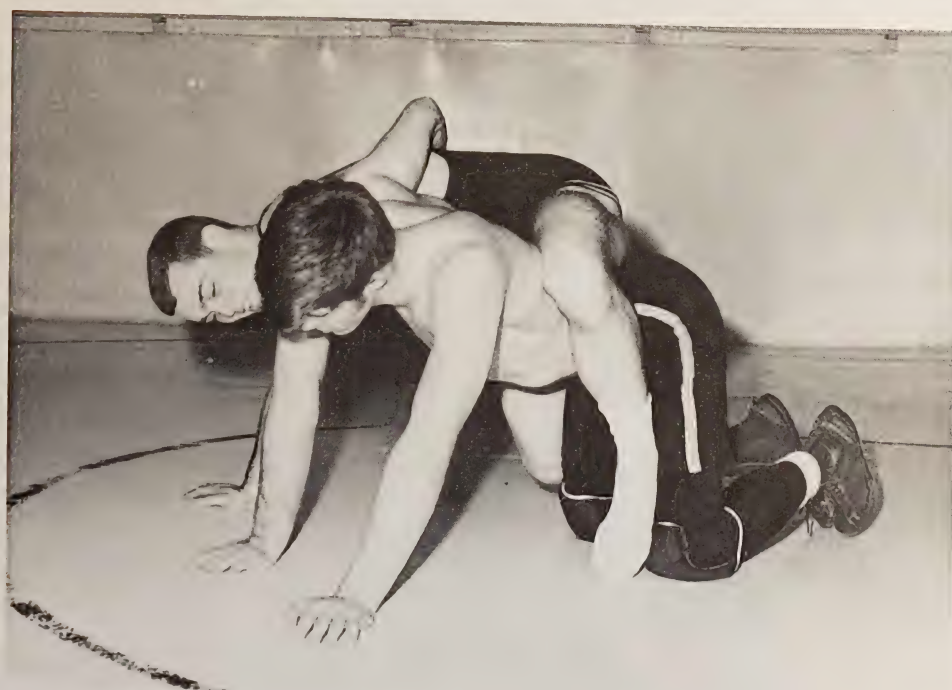
15A Stand-Up-Switch



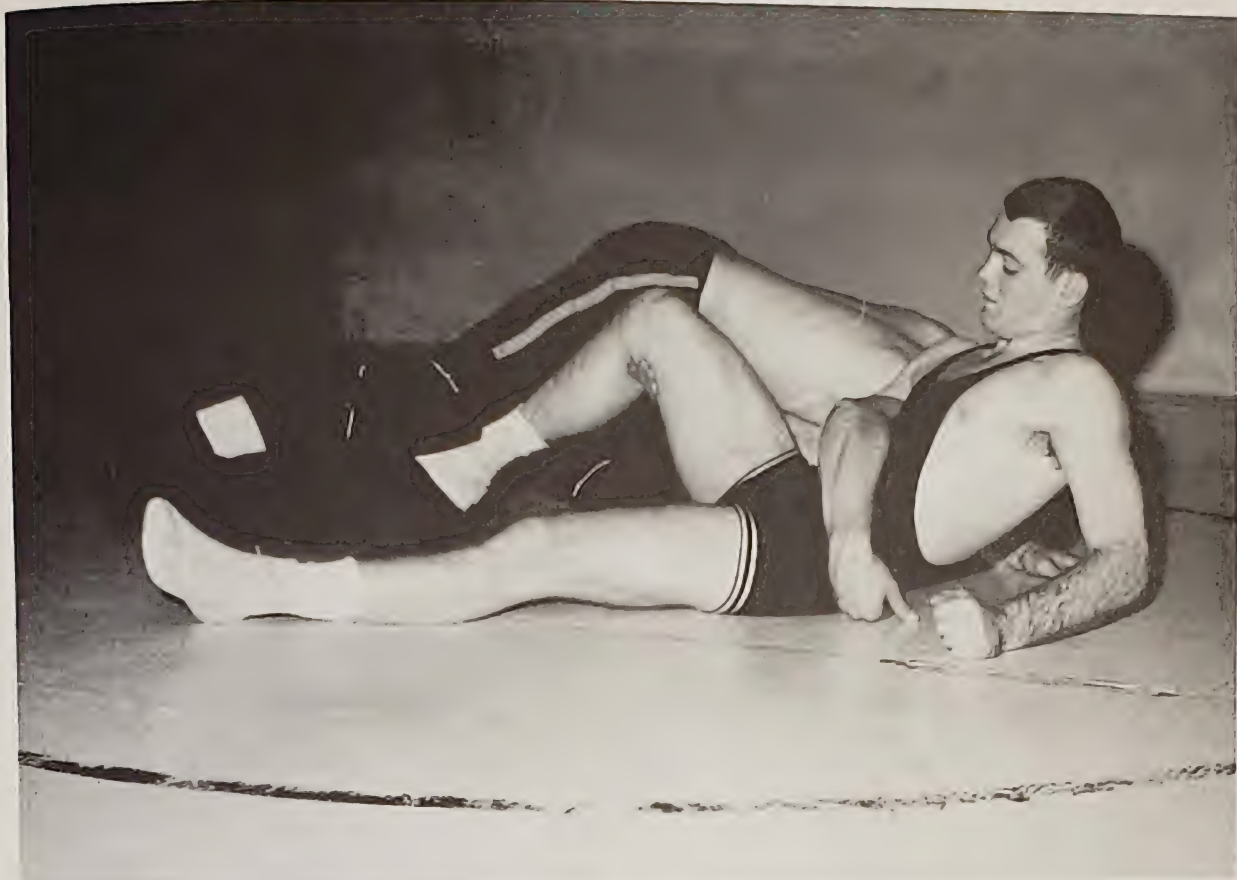
16A Stand-Up-Turn



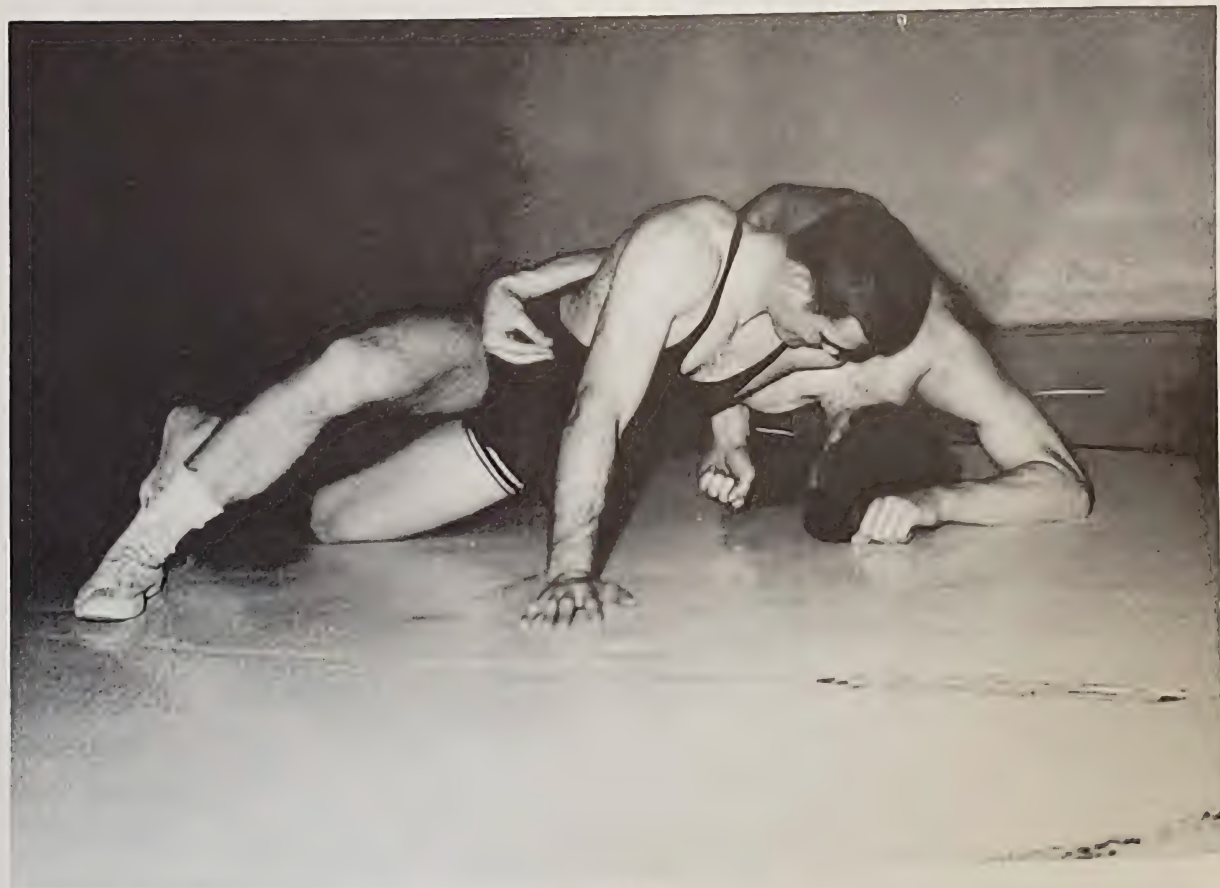
17A Stand-Up-Whizzer



18A Step-Over



19A Switch



20A Whizzer



21A Wrist-Lock-Lift

Twenty-one escape and reversal techniques were identified. Those which were executed from the defensive position and gained a neutral position were considered escapes while those which gained a position of advantage were considered reversals. Those which could not be recognized as any particular type of wrestling maneuver were tabulated as unclassified. Techniques which were dependent largely upon brute strength or upon some accidental advantage for success rather than scientific application were also listed as unclassifiable.

The graphic illustration ranks the most effective techniques as the back-out, leg-elevator, power-house, and cross-body-scissors in that order. The least effective technique was the inside-side-roll. It would be valuable to give instructional emphasis to these former techniques since they proved themselves to be highly effective when employed in championship competition.

Approximately 70 percent of the total number of attempted escape and reversal techniques was unsuccessful. Because such a limited percentage (30 percent) of the techniques was successful, it is important that the most effective ones be taught if the greatest benefit is to be derived from the time and effort invested.

The data, as presented in the following table, show the stand-up-turn

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to be the favorite technique used in championship matches. The sit-out-turn and the switch were the most popular techniques. This would suggest that perhaps more time should be devoted to practicing blocks and counters for these techniques. The data on this table also indicate that several of those escape and reversal techniques which were frequently attempted were less effective than many other techniques. Some of the more infrequently attempted techniques showed their effectiveness despite the fact that they were not employed often.

The step-over, inside-side-roll, whizzer, sit-out-turn, side-roll, and shoulder-roll were the techniques that resulted in the most points being lost by the defensive wrestler. Four of these techniques—the sit-out turn, shoulder-roll, inside-side-roll, and the side-roll—place the defensive wrestler in a precarious position in that they require for proper execution that the wrestler turn his scapula area to the mat. This would suggest that these skills need to be performed with the greatest caution since the risk of losing points is greater than with other techniques.

TABLE 1

Composite of Escape and Reversal Attempts Employed
in National Wrestling Championships

Escape or Reversal Technique	Points Gained	Number Points Gained or Lost	Points Lost
Back-out	12	3	
Between-leg-pick-up	1	7	
Bridge-back-scissors		1	
Buck-away	8	42	
Cross-body-scissors	17	20	
Inside-side-roll	2	14	1
Inside-switch	3	9	
Leg-elevator	9	6	
Power-house	14	10	
Shoulder-roll	15	41	1
Side-roll	12	45	1
Sit-out-turn	66	101	7
Stand-up-roll	1	5	
Stand-up-shoulder-roll	1	9	
Stand-up-switch	11	56	
Stand-up-turn	179	412	1
Stand-up-whizzer	13	24	
Step-over	2	6	1
Switch	28	104	
Whizzer	12	53	3
Wrist-lock-lift	1	3	
Unclassifiable	45	9	

An important conclusion of this study was that the proximity of the defensive wrestler's scapula area to the mat, while executing an escape

or reversal technique, was likely a determining factor in the attempts that resulted in points being lost when the technique was countered. It can be concluded that the best position from which to execute an escape or reversal was standing.

4 Main Ingredient of Wrestling Champions

MASTERY OF A LIMITED NUMBER OF TECHNIQUES, EXCELLENT PHYSICAL condition, and the will to win are the three qualities possessed by a champion. Of these, the will to win is, by far, the most important since it serves as the starting point for realization of the other two.

The will to win is characterized by a high degree of ambition and determination. It exists in a man who knows what he wants, possesses a burning desire to have it, and keeps trying until he achieves it. An aspiring purpose, an intensifying desire, and a sustaining persistence are the major sources of achievement.

PURPOSE

The goal is success. If desired keenly enough, nothing encountered will keep a man from acquiring it. A man with complete confidence in his ability to win, will win. Confidence is a prerequisite to success. With it a man feels at home on the mat. Not only does he know he is master of the situation, but he lets the opponent know it as well. From the very start he dominates the bout by compelling the opponent to wrestle according to his style. This places the opponent immediately on the defensive.

Believing in himself provides the self-assurance necessary for success. This belief is founded upon many hours of hard work spent on training and on perfecting techniques. When the time arrives for his efforts to be rewarded, he is mentally prepared to the point where he knows he cannot be beaten. He has developed an unquenchable thirst for success. He is success conscious. He is convinced he cannot be defeated. He is a champion, he perceives himself as a champion, and this concept follows him throughout his athletic career.

DESIRE

A good wrestler can never become a champion without desire. He may experience success, but never in abundance. There is a difference between wanting success and desiring it. Simply wanting, wishing, or hoping will not make it happen. Success demands a burning desire. It is the type of desire that is a keen, pulsating emotion which becomes more and more intense until it transcends everything else. It is this—and this alone—that creates within a man the feeling that he can be a champion.

Everything acquired in life begins in the form of desire. Success in wrestling is no exception. It is the type of desire that makes one willing to undergo months of intense training. It is the type of desire that requires willingness to subject oneself to a daily routine of burning lungs, anguished labored breathing, and the pain and agony that accompanies fatigued muscles.

Champions have insatiable appetites for hard work. They are so strongly motivated by their desire that they are capable of repeatedly pushing themselves into varying acute stages of exhaustion.

The difference between a champion and the rest is the champion's willingness to drive himself closer to his physiological limit. The rest have a natural reluctance to push themselves hard. The pain resulting from fatigue causes them to quit before they really have to. They operate up to their *psychological* limit but never truly approach their *physiological* maximum. Psychological rather than physiological factors determine the limits of their performance. The champion, however, narrows the gap between his psychological and physiological limits. He removes many of the mental influences that inhibit an all-out performance.

It takes hard work and determination to be a champion. Success is dependent upon being able to derive extreme pleasure from achievement. It is characterized by factors of motivation, pride, and a willingness to accept pain.

PERSISTENCE

Sustained effort is necessary to attain a goal. When the goal is success, effort must be backed up by a type of persistence that does not recognize failure. The goal must be held onto until it becomes a reality.

A champion never tells himself, "Ah, what's the use." Defeat to him is nothing more than a temporary setback. He learns from it. He is so

success conscious and convinced that he won't lose that he doesn't.

A distinguishing characteristic of a champion is his hatred of losing. There is something in his makeup that will not allow him to accept defeat. He is convinced that winning is inevitable. He may concede that an opponent is an excellent athlete, but he never admits to himself, or others, that he might be defeated. He believes in himself and his ability to win.

Being success conscious makes defeat unlikely. Winning is attracted to the man whose mind is favorable to it and prepared to expect it. It provides the drive necessary to keep him trying no matter how hard the going may be. His willingness to put out to the limit of his ability keeps him from giving up. He wins by never quitting.

Once championship status has been attained, a reputation is established and has to be defended. The pride that accompanies this recognition then becomes the impetus for continued success.

CONCLUSION

The main ingredient of a champion is the will to win. Will power is a mixture of sureness of purpose, desire, and persistence. Knowing what is wanted, possessing the desire to do and to be, and having the determination to continue until that goal is realized provides the key to success. This concept is well expressed by Walter D. Wintle in the following:

It's All A State Of Mind

If you think you are beaten, you are,
If you think you dare not, you don't;
If you'd like to win, but think you can't,
It's almost a "cinch" you won't.
If you think you'll lose, you're lost,
For out in the world you find;
Success begins with a fellow's will,
It's all a state of mind.

For many a race is lost,
Ere even a step is run;
And many a coward fails,
Ere even his work's begun.
Think big, and your deeds will grow,
Think small and you'll fall behind;
Think that you can, and you will,
It's all a state of mind.

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If you think you're outclassed, you are,
You've got to think high to rise;
You've got to be sure of yourself before,
You ever can win a prize.
Life's battles don't always go,
To the stronger or faster man;
But sooner or later the man who wins,
Is the one who thinks he can.

Part II
COACHING METHODOLOGY

5 Organization of Practice Sessions

WRESTLERS IN GENERAL ARE INCLINED TO FEEL THAT AFTER ATTEMPTING a new technique a few times they have mastered it. This is, of course, a false impression. The successful employment of any technique requires a considerable amount of practice before it can be executed instinctively at top speed. Ultimate success in using it is dependent upon proficiency. Yet, the repetition necessary to attain proficiency is oftentimes boring and extremely dull. Consequently, wrestlers are often more interested in "rasslin" and rolling around on the mat than they are in practicing techniques.

The solution to this dilemma oftentimes lies in investigating the manner in which the practice sessions are organized. Careful study of the organizational pattern of these sessions will frequently reveal inherent weaknesses. Methods of handling and conducting the workouts, if not actually producing the problem, may be aggravating it. Workouts that do not retain the interest of the athletes will do little to solve the problem. Unpopular drills, tedious exercises, monotonous routines, when conducted by an irritable, officious, bossy coach can only be expected to result in trouble. Routine drilling creates a situation where the soil is fertile for behavioral difficulties. Horseplay, mischief, and perhaps serious injury often are the end results.

Nagging, constant pleading, and commands given in a loud firm voice may correct the situation temporarily, but they do not solve the problem. An analysis of the workout session might reveal that it is basically a bore. This is especially true when it is handled carelessly, planned badly, and centered around activities that are insufferably dull.

The coach must be able to recognize the general symptoms of disinterest and heed the signals. Continuing with a boring activity will only result in ineffectual learning, substandard effort, and a desire on the part of the learner to fool around instead of practice.

The methodology used in first presenting a new technique should

not include a complex description. Such an approach can be more harmful than helpful when a technique is initially being learned.

Early emphasis on details is undesirable. A general impression of how to perform the technique is all that is needed. Only the basic movement pattern required to perform the technique needs to be explained. At first, the only concern should be with the basic movements necessary to execute the total technique.

After the entire technique is demonstrated at the speed and in the manner it is expected to be performed when mastered, the learner should immediately be given the opportunity to try it. Additional guidance before the athlete performs the movement is of dubious value, because the athlete's initial interest is in trying to execute the maneuver. A few minutes of practice at the start is worth thirty minutes of explanation. Many mistakes will be eliminated by the wrestler himself as he readjusts his pattern of movement while attempting the technique.

Only after the general movement pattern has been learned should more details be introduced. Areas needing emphasis should be pointed out. Demonstrations on the mechanics of performing the technique should frequently be repeated.

Intermingling demonstrations and explanations with practice will diminish the boredom commonly associated with having to perform a new technique repeatedly. Repetition is necessary for mastery. Mastery is only acquired through practice.

Frequent meetings with the wrestlers provide the opportunity for presenting progressively more detailed instruction, and also provide an incentive to try the technique again. Motivation plays a large part in an individual's willingness to continue practicing something that could otherwise become dull.

The level of interest can be renewed and/or maintained by discussing common mistakes. Individuals having difficulty can be used as examples. Hints on correcting prevalent mistakes can be given.

During the times the technique is being practiced, individual instruction should be provided for those experiencing difficulties. When a common mistake is spotted, it should be brought to the attention of the entire group.

Wrestlers are often unaware of their mistakes. Demonstrating a mistake in slow motion, while they focus their attention upon it, is one of the best means of correcting it. At times, it is necessary to isolate that part of the technique which is causing the greatest difficulty. Overcorrection by repeated exaggeration of the proper movement is an

effective method of eliminating the mistake.

Early in the season, most wrestlers look forward to practice. As time passes, however, enthusiasm often dwindles and boredom sets in. This may be observed in their weariness, lack of eagerness, and a loss of interest.

The monotony of the same type of workout day after day and week after week can create an attitude of restlessness, boredom, and inattention. Routine workouts can become wearying and sheer drudgery. Practicing techniques over and over can become an unpleasant experience and eventually a morale killer.

Proficiency can only be attained by repetition. Repetition, however, can be boring. Boredom can negate the benefits that would otherwise be realized.

Specific procedures can be employed to bring about a more positive attitude toward repetitive practice. Clever, creative, and ingenious ways can be devised to put a sugar coating on tedious work.

By introducing the element of competition into the practicing of techniques, interest can be maintained. Routine drills can be made more enjoyable by converting them into game situations.

Variety insures enthusiasm. The total time a technique is practiced, the pace at which it is practiced, and the amount of rest between each repeated effort are variables that can be manipulated. Occasionally, allowing individual wrestlers to plan their own workouts will alleviate a feeling of having to do the same old thing.

Procedures that distract from interest in practicing techniques should be avoided. Counters to a new technique, for example, should not be taught until a reasonable degree of proficiency in executing the technique has been attained. A counter taught before a technique is mastered will result in a loss of interest in practicing that technique.

Because of the nature of the sport, wrestling sessions tends to be hard repetitive work. If not properly planned, they can be extremely boring. Sessions that are interesting don't just happen; they are planned. They are characterized by varied, vital, and exciting activities. They are a result of a coach's willingness to dedicate time and energy toward making them a success.

6 Unique Aids in Coaching

TEACHING AIDS ARE NO LONGER A NOVELTY IN ATHLETICS. THEY ARE presently being used extensively in the preparation of athletes for high calibre performance. The reluctance, however, of some coaches to employ teaching aids stems from an opinion that they are difficult to operate and/or expensive.

In recent years, technological advances have made the operation of even the most highly sophisticated teaching devices relatively simple and uncomplicated. In most instances, it is quite difficult to make a mistake while using them.

Wrestling programs generally operate on very limited budgets. How the money is spent is a legitimate concern. However, while the cost of some teaching aids are prohibitive, others are quite reasonable.

Many aids can often be used without having to be purchased. Sources for acquiring them include rentals and loans. Departments such as audio-visual and physical education are oftentimes willing to allow their equipment to be borrowed. Aids commonly used by several departments or in more than one sport can be purchased from a combined budget.

One of the unique and most useful aids to coaching wrestling is the starting light. A highway flasher (photo 22A), commonly used as a warning signal in construction zones, is one of the most practical and inexpensive types of coaching aids.

Its irregular flashes serve as an ideal signal to begin wrestling. It is most useful during drills to insure continuous wrestling. Anytime a wrestler is pinned, collides with another, or goes off the mat, he can stop and start again on a predetermined number of flashes. The amount of time that would otherwise be taken up waiting for a whistle or verbal command is not wasted. It is also an excellent means of practicing starts from a referee's position.

A positive attitude toward practice does not happen by accident.



22A Starting Light

**23A Phonograph**

It is a direct result of careful planning.

A phonograph (photo 23A) can assist in evoking a positive frame of mind about enduring physical stress. It can make the wrestling room a pleasant area to work in and practice sessions more rewarding. It can increase team spirit and morale. It can get athletes mentally "up" for working hard. It can inspire them to execute techniques with greater enthusiasm.

Depending upon the response desired, the type of music selected that can act as either a catalyst in stimulating effort or as a pacifier in bringing about a more relaxed mood. Hard rock can elicit eager, aggressive, and invigorating efforts while softer, more soothing music can help relax tense athletes.

If the music is taped, a recorder (photo 24A) can also serve as a means of maintaining a running commentary at meets. Taping permits the coach to maintain constant visual contact with the action without having to shift his attention in taking notes. Following the meet, the tape can be played back as a means of evaluating the results. The tape is reusable after the information is no longer desired.



24A Tape Recorder

The most recent coaching aid developed for analyzing and improving skills is the instant video tape replay recorder (photo 25A). The recorder is equipped with a monitor and television camera for use in taking pictures with sound (photo 25B).

The major advantage of the video recorder is its instant replay quality. The time between the recorded performance and the availability of the tape is negligible. Instant replay makes the immediate appraisal of performance possible. The coach can point out deficiencies in the execution of various skills.

By seeing himself immediately after performing, the wrestler has instant feedback regarding his mistakes as well as his successes. He can see what he did wrong without having to question the coach. The reasons for the lack of success in competition can be studied and necessary corrections stressed.



25A Video Recorder

Both the tape and the film can be stored and replayed as much as desired. They can be erased repeatedly without loss in the quality of the recording.

Another rather recent coaching aid is the audible signal timer (photos 26A and 27A). This mechanical signal timer, in addition to being a valuable aid in conducting practice sessions in wrestling, is also useful in most other sports including football, basketball, track, and swimming.

Most signal timer units are activated and controlled by a button and/or audible sound. They are commonly employed as follows. A time interval is selected. At the desired interval a sound automatically repeats itself. Loud signals are sent out at the exact periodic times that the unit has been programmed for.

The benefits are noteworthy. The coach is freed from being a slave to a stopwatch. The boring routine of having to keep track of time is eliminated. An accurate account of repetitive work intervals is no longer in question.

The preciseness of the controlled time element is assured in conducting drills. Accurate timing of the exertion and recovery phases of

**25B Video Monitor and Camera**

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7 Basics of Scouting

SCOUTING MAY BE DEFINED AS OBSERVING, EVALUATING, AND RECORDING the strengths and weaknesses of future opponents. It is employed as an invaluable tool in all major sports. In wrestling, however, it is probably the most neglected aspect of coaching.

Scouting generally requires keeping a record of the techniques a future opponent popularly employs offensively and defensively. This record provides information that can be used in planning out strategy to take advantage of the opponent's weaknesses and thereby enhance the chances of defeating him.

Strategy requires taking into consideration both your own and your opponent's strong and weak points. Then by concentrating on one's own strengths and taking advantage of an opponent's weaknesses, success is more likely to be realized.

An objective review and evaluation of an upcoming opponent's strengths and weaknesses helps to establish immediate goals. Knowing what the opponent does well and what works well against him provides a profile for deciding what should be emphasized when competing against him.

This information provides the basis for focusing on moves to defeat the opponent. Practice sessions should accentuate techniques which are likely to be most successful. Considerable time should be dedicated to those techniques which have a favorable chance of success.

The typical scouting report form is often much too lengthy to be practical. It may contain more boxes and squares than a crossword puzzle. While trying to do a thorough job of filling in the blanks, the attention of the scout is constantly being shifted from the action to the scouting form and back to the action. Consequently, crucial phases of a meet are oftentimes not observed.

The author proposes to present a simpler, more concise, and more practical scouting form. It is a modification of one suggested by Art

Keith in his book *Complete Guide to Championship Wrestling*.

The proposed form provides a chronological account of all the moves tried during the progress of a match. It establishes a permanent record of the number and sequence of all attempted moves. It provides data on the success and failure of each of these moves.

A scoring key, amounting to a series of symbols, classifies each technique. A diagonal mark (/) is drawn through the symbol of any technique that is countered. As a means of identification, a circle is drawn around those techniques initiated by one of the wrestlers.

A discussion of the recorded match below will assist in gaining an understanding of how the scoring form is used.

In the first period, Brown had two double leg takedown attempts countered. This was the only action which took place during the first

SCOUTING REPORT FORM

Brown
Name of wrestler "A"

Anderson
Name of wrestler "B"

2/12
Date

Scoring Key

○ wrestler "B"

T, E, R, P, N, F

/ countered

Time	:30	1:00	1:30	2:00	Score
1st period	<u>T</u>		<u>T</u>		0-0
2nd period	<u>E</u>			<u>T</u>	0-1
3rd period	<u>R</u>	<u>N</u>			5-0
Final score					<u>5-1</u>

Comments	Wrestler "A"	Wrestler "B"
What are his favorite moves?	double leg take down outside switch	inside leg stand up
Was he in condition?	yes	No, called for stalling 3rd Per.
What will work against him?	inside leg stand up	
What won't work against him?		double leg Takedown

Technique

Remarks

1. double leg Takedown
2. double leg Takedown
3. inside leg stand up
4. inside leg stand up
5. double leg Takedown
6. outside switch
7. 1/2 Nelson & Crotch
- 8.

1. initiated from tie-up position
2. countered by a sprawl & cross face
3. countered with back heel
- 4.
5. initiated from tie-up position
- 6.
- 7.
- 8.

two minutes. The round ended with the score 0-0.

The second round started with Anderson being unsuccessful in attempting a stand up escape. A second similar attempt was, however, successful. Brown again had a double leg takedown countered. The score at the end of the second period was 1-0 in favor of Anderson.

Round three began by Brown successfully reversing Anderson with an outside switch. Later in the period Anderson was nearly pinned with a half-nelson and crotch combination. The third round was 0-5 for Brown. The final score was 1-5 with Brown being the winner.

In analyzing the progress of the match, it should be noted that all three attempts by Brown to take his opponent to the mat were double leg takedowns. All were initiated from a tie-up position. Although each was successfully countered, the particular technique was repeatedly attempted. Anderson did not attempt a takedown, although he effectively countered three attempts made by his opponent.

When Brown was on top he scored five points. On his first attempt to reverse his opponent, his outside switch was successful. He then went on to break Anderson down and score a near fall.

While working on top, Anderson was unable to score. In the bottom position, he attempted the stand up escape twice and was successful on the second attempt.

The scouting report provides a means of readily measuring both the strengths and weaknesses of both wrestlers. It is a sound basis for analyzing a future opponent's greatest vulnerability. This information should be used in designing a plan of action.

When an opponent wrestles according to the pattern suggested by the scouting report, he is more likely to be defeated. No greater satisfaction can be felt by a coach, team, or individual wrestler than when the planned strategy works as predicted.

Evaluating Wrestling Effort* 8

WRESTLING COACHES ARE CONSTANTLY PLAGUED WITH THE PROBLEM OF accurately evaluating their athletes' efforts during practices and matches. They have to rely on subjective assessment to determine the intensity of the effort.

Though a knowing coach usually can separate the loafers from the workers, subjective assessments involve a lot of guesswork; and whenever you have guesswork you must have errors.

What can the wrestling coach do about it? We recommend periodic checks of the heart rate. They offer a simple but precise means of evaluating the degree to which wrestlers are exerting themselves.

Several research studies have been made on the use of heart rates in assessing effort. Astrand, et al. indicate that the heart beats 110 times per minute at 40 percent of maximum effort and 186 times at 100 percent effort.

Karvonen suggests that positive changes in cardiovascular (heart) function are realized only when the heart rate indicates at least 70 percent of maximum effort.

These data make it possible to calculate heart rates in terms of working capacity. Suppose a wrestler's resting heart rate is known to be 60 beats per minute. His maximum heart rate, according to Astrand's study, is approximately 186 beats per minute. By applying the formula suggested by Karvonen, it is possible to determine how much effort the athlete must exert in order to make cardiovascular improvements.

$$\begin{aligned} & (\text{MAXIMUM HEART RATE} - \text{RESTING HEART RATE}) \times 70\% \\ & + \text{RESTING HEART RATE} = \text{EXERCISE HEART RATE} \end{aligned}$$

Example: Maximum heart rate = 186

Resting heart rate = 60

$$(186 - 60) \times 70\% + 60 = 148$$

* This article reprinted with the permission of *Scholastic Coach*, March 1971.



28A Checking the Pulse Rate

The figure 148 is the minimal heart rate or exercise level that the wrestler must reach and maintain in order to work at 70 percent effort. When his heart rate falls below 148 beats per minute, the pace of the exercise must be increased in order to improve cardiovascular function. The actual amount of work done in a unit of time (intensity) will depend largely on the pace at which the wrestler performs. He can push himself or take it easy. Anytime the coach observes a loafer he should immediately check the wrestler's heart rate to corroborate his suspicion.

This can be done by pressing the fingertips lightly against the carotid artery located at either side of the neck (photo 28A).

A ten-second count of the beats multiplied by six provides the exercise heart rate per minute. For the wrestler's exercise heart rate to be approximately 148 beats per minute, the ten-second count must be 25 (25 beats/min. $\times 6 = 148$ approx.).

Assuming that the wrestler's average resting heart rate is 60 beats/minute, the following table is useful:

HEART RATE AND WORK LEVEL

Percent Effort	Resting Heart Rate	Ten Second Count
0	60	10
10	73	12
20	85	14
30	98	16
40	110	18
50	123	20
60	135	23
70	148	25
80	160	27
90	172	29
100	186	31

The average conditioned athlete, exercising regularly, will have a resting heart rate of about 60 beats per minute or less. Heart rates vary considerably, however, since training tends to reduce the resting heart rate; it may therefore be advisable to check each wrestler periodically for possible changes.

Heart rate counts also can serve as motivators. The ability to determine heart rate can help individualize training efforts (photo 29A), thus encouraging the wrestler to work harder. The wise coach will, however, confirm the accuracy of the initial counts.

In using heart rate as a means of measuring effort, it is essential to understand the physiology involved. Heart rate is measured in beats



29A Counting the Pulse Rate

per minute. It increases in varying degrees, depending upon the intensity, duration, and type of activity.

With each beat the heart pumps or pushes blood into arteries. In the average athlete this occurs 60 times a minute. The arteries, which act somewhat like water pipes, carry blood to various parts of the body. The walls of the arteries are elastic. They stretch with each beat of the heart like a rubber band when it is pulled.

The blood, which is being forced into these arteries, causes the elastic arteries to stretch or bulge outward under its pressure. The diameter of the arteries thus increases as the blood is driven through, and contracts again once the current or flow of blood has surged past.

This bulging or pulse can be felt wherever an artery approaches the surface of the skin. During physical exercise, this is most notable at either side of the neck. If you place your fingertips just below the earlobe, you will feel the rise and fall of the carotid artery.

This rise and fall is the pulse. It is caused by the pumping of the heart and stretching of the artery. Only a slight pressure of the fingertips is required to feel and count each pulse. When counting the pulse, the checker should keep a watch or clock with a second hand in close view (photo 30A). The tips of the fingers are moved around slightly



30A Timing the Pulse Rate

and the pressure varied until the pulse is detected. The pulse count is taken for ten seconds and then multiplied by six. The total represents the pulse beats per minute.

The closer the pulse rate is to 186 the harder the wrestler is working. To determine exactly how hard, it is necessary to know the wrestler's resting heart rate. If, for example, his working pulse rate is 160 and his resting heart rate is 60, it is apparent that he is working at 80 percent of his maximum capacity.

As a rule, the wrestler's output can be controlled in keeping with the objectives of the workout. The following three methods of training are based upon the concept of percentage effort: the extent of exertion relative to maximum physiological capacity.

PROGRESSIVE TRAINING

Consists of wrestling at a pace that increases with each timed effort. The first few repeats are performed at a relatively low level of exertion, after which the intensity is increased with each succeeding effort. The time of each repeat is decreased while the effort is steadily increased.

Effort	Time	Repeat	Cumulative Time Wrestled
25%	4 min.	1	4 min.
50%	3 min.	1	7 min.
75%	2 min.	1	9 min.
100%	1 min.	1	10 min.

Since a rest period of 30 seconds to two minutes is allowed between repeats, the total time comes to ten minutes (wrestling) plus one and a half to six minutes for rest.

REGRESSIVE TRAINING

Entails wrestling each repeat at a slower speed than the one before. Consequently, less effort is required with each repetition.

Effort	Time	Repeat	Cumulative Time Wrestled
100%	1 min.	1	1 min.
75%	2 min.	1	3 min.
50%	3 min.	1	6 min.
25%	4 min.	1	10 min.

Repeats are interspersed with a 30-second to two-minute rest period.

ALTERNATIVE PROGRESSIVE-REGRESSIVE TRAINING

Alternates fast hard repeats with slower, easier ones. Compared to the other training methods, the number of repeated efforts are greater, but shorter in duration.

Effort	Time	Repeat	Cumulative Time Wrestled
100%	$\frac{1}{2}$ min.	1	$\frac{1}{2}$ min.
25%	2 min.	1	2 $\frac{1}{2}$ min.
75%	1 min.	1	3 $\frac{1}{2}$ min.
50%	1 $\frac{1}{2}$ min.	1	5 min.
50%	1 $\frac{1}{2}$ min.	1	6 $\frac{1}{2}$ min.
75%	1 min.	1	7 $\frac{1}{2}$ min.
25%	2 min.	1	9 $\frac{1}{2}$ min.
100%	$\frac{1}{2}$ min.	1	10 min.

Each training method has five variables that can be manipulated in order to control the intensity of the workout:

1. Duration of the training method
2. Pace of each repeat
3. Number of repeats
4. Duration of the rest interval
5. Nature of the rest interval

Workouts can be intensified by increasing variables 1, 2, 3, decreasing variable 4, or alternating variable 5 so that a mild physical exertion such as walking or stretching exercises replaces the inactivity of the rest interval.

Coaches need not guess at the amount of effort that is being exerted in a given bout or in a practice session. Thanks to this new technique they can fairly accurately assess the degree of effort put forth, as well as the level of difficulty of almost any phase of a workout.

9 Newer Approach to Wrestling Instruction

THE POPULARITY OF WRESTLING HAS BEEN INCREASING RAPIDLY IN RECENT years. Throughout the nation vast numbers of high schools, colleges, and universities have integrated it into their physical education and athletic programs. However, in spite of its rapid growth there are still many schools reluctant to include it in their curriculums. Their hesitancy, in many cases, results from the opinion that wrestling is a hazardous activity.

There is an abundance of available literature regarding safety in wrestling. A wealth of advice is provided on how the element of risk can be effectively reduced. Sound recommendations are offered in regards to improving instruction and/or improving facilities. Unfortunately, however, very little has been done to establish a programmed progression for teaching wrestling skills.

Every instructor and coach varies somewhat in his method of teaching. In wrestling, it's traditional to start by teaching those skills which could be employed from standing. It seems only natural that instruction should begin with standing techniques since regulation matches begin from a standing position.

The author would like to suggest a newer, better method of presenting wrestling skills divorced from this conventional approach. This newer method begins with wrestling instruction down on the mat instead of from standing.

The vast majority of injuries in wrestling occur during the early stages of instruction. Most of these are a direct result of falling and landing improperly. Falling from a standing position increases the chances of landing: (1) onto another participant, (2) off the edge of the mat, or (3) into an awkward position.

When falling to the mat (photo 31A) a wrestler commonly injures himself as a result of either poor physical condition or a tenseness



31A Falling to the Mat

which accompanies the fall. If he first learns to wrestle from a position on the mat, he has a better chance of becoming familiar with the activity before being taken down from standing.

Wrestling is a contact sport. Upon initial exposure to the activity, a novice is likely to be hesitant about falling. It is only after he gains confidence in his abilities that fears are gradually overcome and tenseness diminished.

As the foreign feeling that typically accompanies strange surroundings diminishes, the learner becomes more relaxed. Then, when he does fall, he is less likely to sustain an injury resulting from an arm or leg being too rigid as contact is made with the surface of the mat.

While down on the mat, the participant is developing a minimal level of physical fitness thus making it less likely that he will be injured later when he might fall incorrectly.

The ultimate in wrestling is to pin an opponent. The primary interest of the novice is to win. By initially being introduced to pinning combinations, an immediate understanding of how to defeat an opponent is realized.

Greater emphasis on safer teaching sequences can eliminate a number of injuries. Arbitrarily arranged or randomly chosen progression

in skills learning has no place in education. The improper sequence can be hazardous. Good teaching requires adherence to better methods of teaching. Safer programs can never be achieved through complacency.

Research, to date, has been inadequate regarding methods for teaching wrestling. The lack of facts regarding the superiority of any particular method is disturbing. The absence of conclusive statistical evidence makes one opinion as correct as any other.

The existing studies on wrestling injuries makes it apparent that the vast majority take place during the first few minutes of practice or competition. The conclusion is generally that failure to warm up properly is the primary cause of these injuries. However, the fact that the first stage of a wrestling match is conducted in a standing position is commonly ignored. It is quite possible that the high incidence of injuries in the first few minutes is, in part, largely a result of the participants working from a standing posture. The remainder of the match is generally conducted in close proximity to the surface of the mat.

Attention is continually being directed toward newer teaching methods. Conscientious educators with an interest in upgrading instruction are constantly seeking newer ways of attaining more positive results. The physical education and coaching professions should be no exceptions. They, too, must be alert to newer approaches to teaching.

It is hoped that the information in this book will contribute to safer wrestling programs. If greater precautions are taken in setting up progressions, much can be achieved in minimizing injuries. While the possibility of eliminating all injuries can never be completely realized, the probability of their occurrence can be reduced.

The early phases of any wrestling program should be devoted to working on the mat instead of on the feet. Ground wrestling, either from a prone, supine, kneeling or referee's position should precede instruction from standing. Injuries can be reduced by having the participants wrestle close to the surface of the mat until a familiarity with the surroundings is realized. In this way, awkwardness is diminished and a moderate degree of fitness is developed. Wrestling on the feet should be delayed until at least a rudimentary knowledge of the activity is acquired and a minimal level of fitness realized.

Part III
TRAINING PHYSIOLOGY

10 The Science of Training

THE PRIMARY PURPOSE OF ANY TRAINING PROGRAM IS TO PREPARE THE athlete to perform at top efficiency while experiencing the least amount of fatigue. This purpose can only be realized through the application of the principle of adaptation.

Adaptation is the remarkable ability of the body to alter itself according to demands imposed upon it. The body will, in other words, strengthen itself as a means of better coping with requirements made upon it.

Adaptation is the basis for all training. It is founded upon the idea that the work capacity of the body increases as a result of having progressively greater demands imposed upon it. As the demands become greater, the level of physical fitness gradually improves to a point where work of a similar nature, amount, and intensity, when imposed, can be performed with less effort.

Once having adapted, the body can be made to adapt further if one increases the amount and intensity of the imposed demands. When these demands require the body to do work beyond that which can be performed easily, it will become further conditioned. The demands must be over and above previous requirements. As the demands increase, the body's ability to do harder work increases.

In order to gain results from any training program, the demands made upon the body must be sufficient to bring about adaptation. Adaptation can only be realized when the imposed demands are geared to levels above and beyond those which can be met comfortably. This progressive imposing of greater and greater demands is known as overloading.

Regardless of the type of method of training employed, there are six basic means by which the body can be overloaded: (1) by gradually increasing the intensity (pace), (2) by gradually increasing the duration of the work (time), (3) by progressively increasing the number of performances (repetitions), (4) by decreasing the time

for recovery (rest), (5) by increasing the work effort during recovery (mild exercise), or (6) by any combination of the above five.

Training improves the body's endurance or, in other words, its ability to sustain or repeat prolonged activity in three ways:

1. By increasing movement efficiency and thereby reducing the expenditure of energy required to perform a skill. The more proficient an athlete becomes the less energy he needs to perform the skill.
2. By increasing the rate at which oxygen can be absorbed by the blood and transported to the muscles. This reduces the onset of fatigue.
3. By developing the ability to ignore the discomforts associated with fatigue. Willingness to accept pain complements efforts to sustain prolonged activity.

All three means of improving endurance require that the intensity of the work being performed reach a minimal threshold level. The heart rate, for example, must be raised to a value of 70 percent of the range that exists between its resting level and its maximal capacity, if improvement in endurance is to be realized. If the intensity of the work falls below this threshold level, no positive effects can be realized.

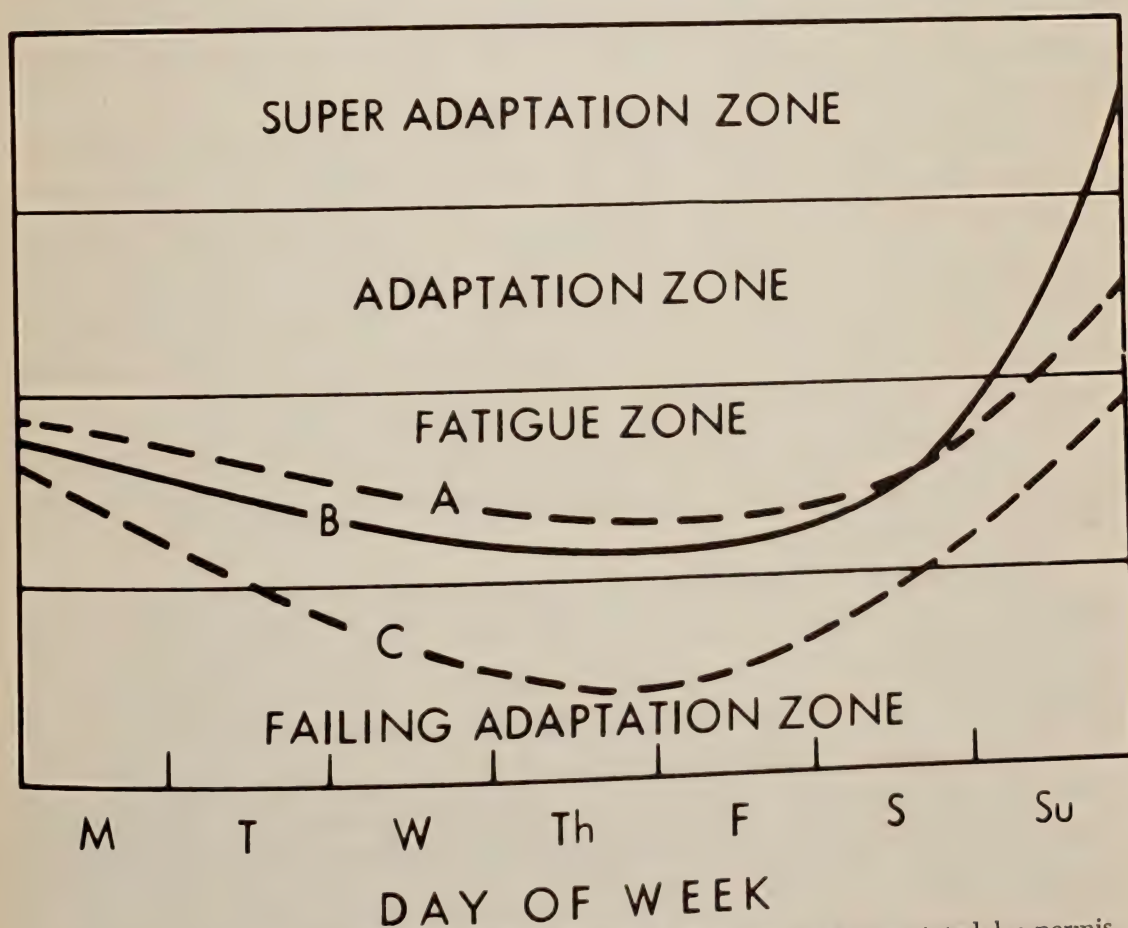
During the process of attaining and surpassing the minimal threshold level, the body experiences various responses. Hans Selye, author of *Stress of Life*—one of the most valuable pieces of literature ever written for coaching—has described the types of bodily responses made to imposed demands. These responses are as follows:

1. An initial response known as an alarm reaction characterized by increases in the (a) heart rate, (b) secretion of adrenaline, and (c) concentration of sugar in the blood is experienced by the body. This is the body's way of preparing itself for action. It is a mobilization of its resources. The blood flow is shifted from the viscera and skin to the muscles, the heart, and the brain. Adrenaline is shot into the bloodstream to strengthen the beat of the heart.
2. The second type of response entails more lasting adaptations. There is a decrease in the resting heart rate which suggests an improved capacity of the heart to pump greater amounts of blood with each stroke. This provides the muscles with larger amounts of oxygen and food substance while promptly removing lactic acid and carbon dioxide waste products. The venous return to the heart is greater and the volume of blood ejected with each beat is increased. This allows the heart a longer period of relaxa-

tion thus requiring less energy to perform a given amount of work. Also, the oxygen and carbon dioxide exchange in the respiratory system becomes more efficient.

3. The third response is detrimental. It results from too long an exposure to imposed demands. When this occurs, the adaptative capacity of the body is depleted. It is characterized by weariness, lack of energy, disinterest, loss of ambition, and a decreased morale.

James Councilman in his book *The Science of Swimming* makes a direct application of Selye's concept to athletic training. He suggests that an athlete training too little fails to attain maximum fitness while one who trains too hard experiences what is known as failing adaptation. He states that by relating the intensity and duration of imposed demands to the athlete's willingness to endure pain, the optimal type of response can be realized. The following chart taken from Councilman's book illustrates the idea of maximal adaptation.



James E. Councilman, *THE SCIENCE OF SWIMMING* © 1968. Reprinted by permission of Prentice-Hall, Inc., Englewood Cliffs, New Jersey.

The chart shows maximum adaptation being attained by athlete "B" who was willing to push himself close to but not into the failing adaptation zone. Athlete "A" was too interested in comfort to push himself far enough to make much of an adaptation. Athlete "C" pushed himself too hard. Maintaining an optimal work load while in the fatigue zone yields the greatest returns.

Conditioning is best realized in the fatigue zone. It cannot, however, be accomplished comfortably. It requires willingness to punish oneself to the point of acute discomfort.

Man has a natural reluctance to push himself to a point of discomfort. The burning lungs accompanied by anguished laboring for breath, a rapid pulse, muscular pain, and over all fatigue are difficult to accept willingly. Consequently, a mental block or barrier is commonly established. As the athlete pushes himself, this barrier is forced back further and further in bringing him closer to his physiological limit.

The athlete's psychological limit, however, is always reached before his physiological limit. Factors, such as motivation and willingness to accept pain, are primarily responsible for setting these psychological limits. Extensive research on these limits has been conducted by the late Arthur Steinhaus.

An athlete's physiological capacity is never truly known. However, as psychological inhibitions are removed the physiological limit is approached. Removal of these inhibitory influences occurs as the limits of tolerance to pain are extended. The physiological capacity of an athlete depends largely upon the degree to which he is willing to endure discomfort. Consequently, individual differences in the rate of adaptation may be explained partially upon the basis of the degree to which the athlete has been willing to punish himself. Willingness to accept pain is commonly the determining factor responsible for defeating a stronger opponent.

In conclusion, it must be remembered that conditioning requires that the body adapt to imposed demands. The body's capacity can only be improved by progressively imposing greater and greater demands. The effort required to do the same amount of work is less as the body adapts. Further adaptation is dependent upon increasing the amount and intensity of the work. Greater demands in the form of increased work loads must be imposed in order to bring about further improvements.

Demands imposed upon the body must be great enough so that a threshold level of adaptation is realized. This level should be sought

by either increasing the pace or work load, or reducing the time of recovery.

The primary goal of overloading the body is the development of endurance. Endurance is improved by reducing energy expenditure, postponing the onset of fatigue, and increasing tolerance to pain.

The optimal level of exertion is the point just prior to entering the zone of failing adaptation. In order to attain this, the athlete must be willing to accept pain as a means of overcoming psychological barriers which might otherwise limit his physiological performance.

11 Interval-Circuit Wrestling*

COACHES WHO CANNOT FIND ENOUGH TIME FOR BOTH CONDITIONING AND skill teaching might find the answer in interval-circuit wrestling. This is a new and unique conditioning system that combines the principles of both interval and circuit training.

Interval training consists of repeated bouts of exercise interspersed with recovery periods of little or no activity. As the athlete's condition improves, the speed and length of each activity period is increased while the rest intervals are shortened.

Circuit training involves a series of activity stations at which one or more exercises are performed. The athlete moves from station to station until he completes the circuit.

X Wrestling conditioning generally entails a combination of exercises and calisthenics. I believe this is a waste of time. Calisthenics seldom develop muscles in the manner needed for wrestling and they are usually so boring that the athletes find them difficult to perform with enthusiasm. Conditioning becomes drudgery and eventually kills morale. Workouts are dreaded, the season grows endless, and wrestling becomes unpleasant and unrewarding.

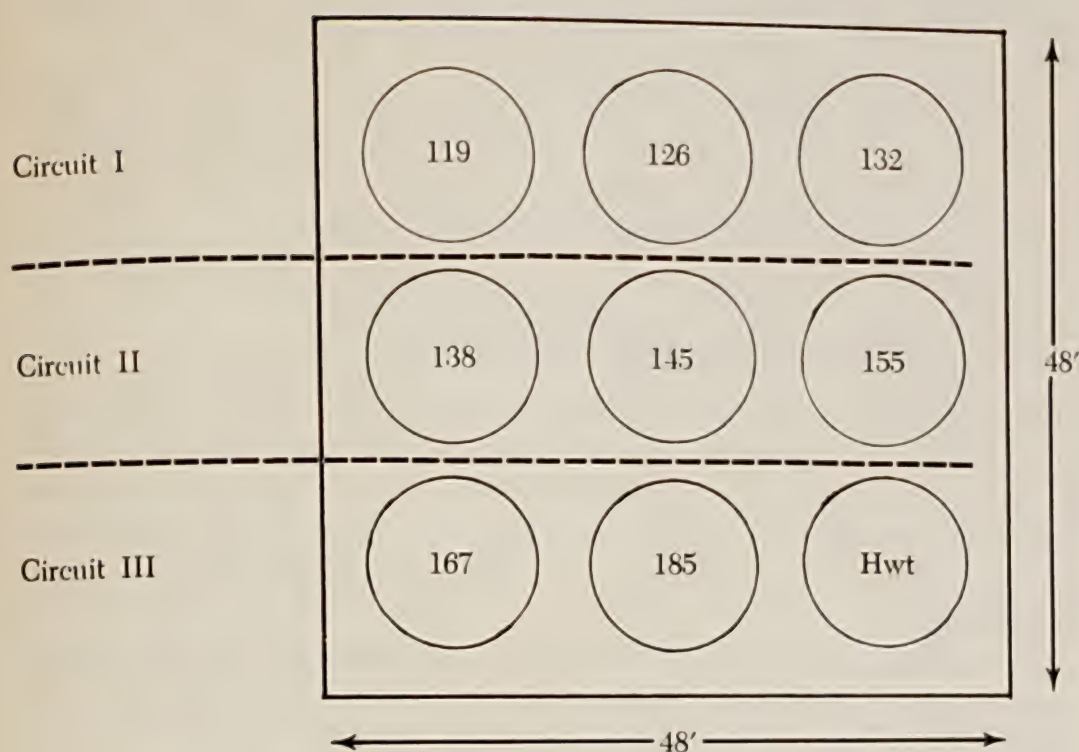
Interval-circuit wrestling eliminates this by adding variety to conditioning while helping the wrestler perfect his skills.

ARRANGEMENT OF THE INTERVAL-CIRCUIT

Frank Kapral's *Coach's Illustrated Guide to Championship Wrestling* provides the basic setup, as shown in the accompanying diagram. Using chalk or adhesive tape, we mark nine circles corresponding to the weight classes, each eleven feet in diameter and equidistant from one another on the mat.

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Each horizontal column of three circles constitutes a circuit, giving us a total of three circuits. Three wrestlers of approximately equal weight are assigned to each circle and given numbers from one to three.

The organization of the circuit system is delineated in the accompanying chart.

<i>Round 1</i>			
<i>Period</i>	<i>Resting</i>	<i>Wrestling</i>	<i>Position</i>
1	1	2-3	Standing
2	2	1 (up) -3 (down)	Referee's
3	3	1 (down) -2 (up)	Referee's
<i>Round 2</i>			
<i>Period</i>	<i>Resting</i>	<i>Wrestling</i>	<i>Position</i>
1	1	2 (up) -3 (down)	Referee's
2	2	1-3	Standing
3	3	1 (up) -2 (down)	Referee's
<i>Round 3</i>			
<i>Period</i>	<i>Resting</i>	<i>Wrestling</i>	<i>Position</i>
1	1	2 (down) -3 (up)	Referee's
2	2	1 (down) -3 (up)	Referee's
3	3	1-2	Standing

In the first period of Round 1, wrestler number one rests while two and three wrestle from the standing position. After each takedown, they resume the standing position and try for another takedown.

In the second period of Round 1, two rests while one and three wrestle from the referee's position with one on top. If three reverses or escapes, they quickly resume the original position and begin to wrestle again when the bottom man slaps the mat.

In the third period of Round 1, three rests while two (on top) and one (on bottom) wrestle from the referee's position.

This continues through the next two rounds (see chart) for a total of nine periods. At the end of the first three-round series, a whistle or vocal command tells the number one man to move up one circle within the horizontal rows. Number one in the 119 circle moves to the 126 circle, number one at 126 moves up to 132, and the number one man at 132 moves to 119. The same rotation is followed in the other two circuits.

To facilitate the rotation, clear-cut instructions for the movement must be given in advance. After the first few times, the pattern will be thoroughly understood and should run smoothly.

After the second series of three rounds, the number two men rotate in the same fashion. This completes the interval circuit. Each boy has wrestled 18 complete three-period matches, 10 in his own weight class, against six different opponents. He has wrestled 18 periods standing, 18 periods in the top position and 18 periods in the down position. He has wrestled two-thirds of the time and rested for one-third.

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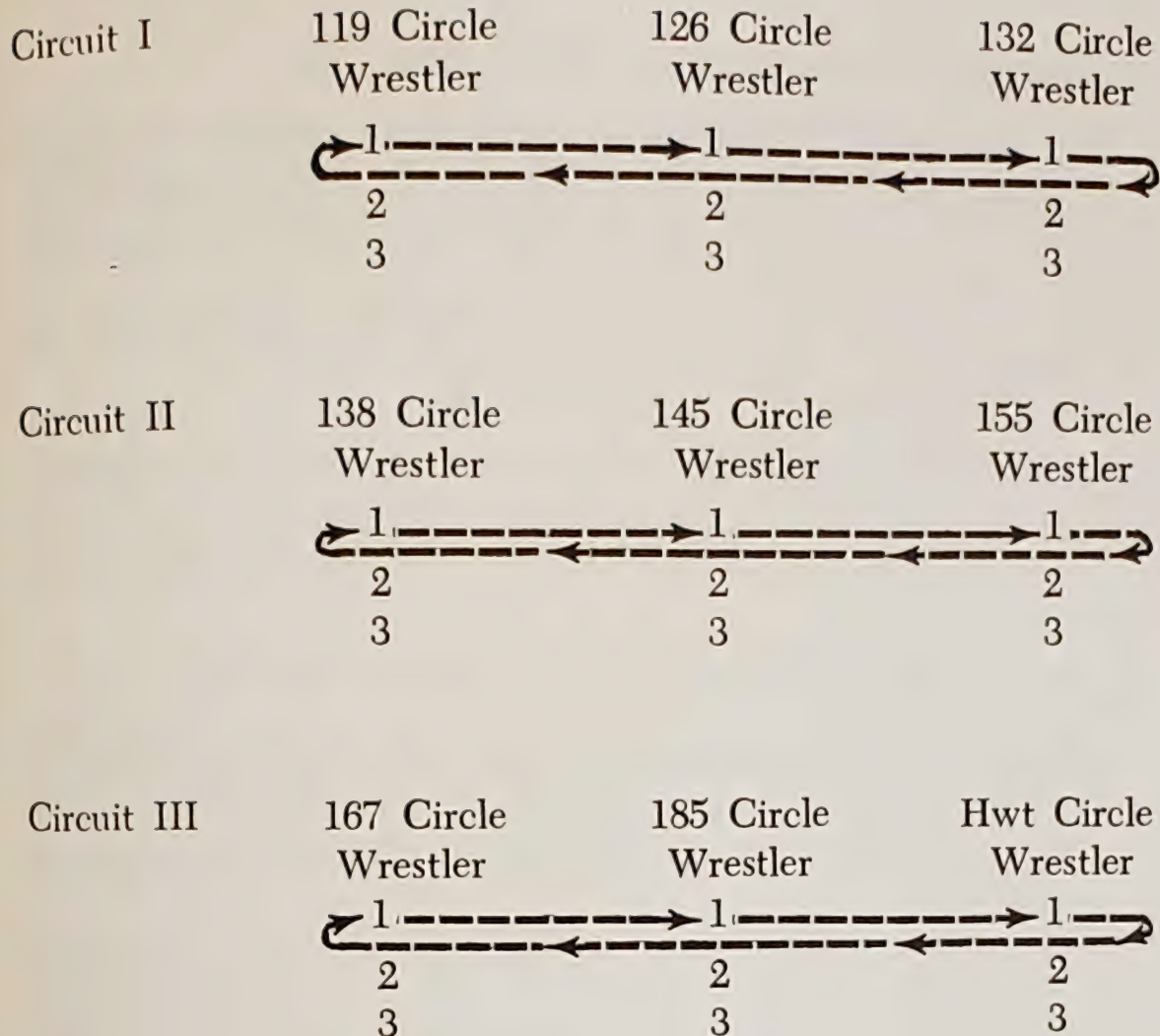
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In organizing the interval-circuit, we suggest starting with 15-second periods and increasing to one minute as the season progresses.

ANALYSIS

There are five variables to the interval-circuit:

1. Length of circuit.
2. Intensity (speed or pace).
3. Number of circuits.
4. Length of rest.
5. Nature of recovery phase.

The degree of overload for the interval-circuit may be intensified by adjusting these variables as follows:

1. Increasing the time spent at each circle.
2. Increasing the pace of the circuit.
3. Increasing the number of circles.
4. Shortening the rest interval.
5. Increasing activity during the rest interval
(jogging or mild exercise instead of complete rest).
6. Any combination of the above.

There are literally hundreds of combinations possible. The coach must decide which combination will produce peak performance in his situation. We recommend that the degree of overload of the circuit might be intensified most efficiently by:

1. Increasing the duration of each period to a maximum of one minute.
2. Shortening the rest intervals by using only two wrestlers at circles 126, 145 and 185. The rest intervals can be shortened further by having only two wrestlers at circles 119, 132, 138, 155, 167 and Hwt. while having three wrestlers at circles 126, 145, and 185.

LIMITATIONS OF THE INTERVAL-CIRCUIT

1. Fatigue interferes with skill mastery since the wrestler tends to substitute larger movement patterns for finer ones as he begins to tire. Preciseness can make the difference between the success or failure of a skill.
2. The circuit will do little to develop strength since the resistance (overload) cannot be scientifically controlled. It can, however, be regulated somewhat by requiring one of the wrestlers to react either passively, maximally, or with a certain percentage of resistance to his opponent's efforts.
3. The actual amount of work performed per unit of time (intensify) depends largely upon the pace at which the wrestler performs. He can push himself or take it easy. If the coach suspects that a wrestler is loafing, he should immediately check the boy's pulse to confirm this observation.

ADVANTAGES OF THE INTERVAL-CIRCUIT

1. Provides the physiological adjustments and the muscular and cardiovascular-respiratory endurance specifically required by the sport. (Actual wrestling is the best conditioner for wrestlers.)
 2. Helps the wrestler master skills while conditioning himself.
- In short, it is a simple yet practical means of achieving two goals simultaneously.

12 Strength Development for Wrestling

THERE IS NO SPORT IN WHICH THE PARTICIPANT CAN EMPLOY STRENGTH with greater effectiveness than wrestling. However, although it demands strength for success, wrestling does little to develop it to its optimal level. By itself, it is insufficient to develop the degree of strength necessary for top performance.

In the initial stages of conditioning, wrestling does to a limited extent strengthen the muscle groups involved, but as the level of skills improves, the actual amount of work done by the muscles is significantly reduced. Therefore, there comes a time when wrestling ceases to provide sufficient work to produce any appreciable gain in strength.

While there seems to be general agreement as to the relative importance of strength in wrestling, a difference of opinion exists as to which method is best for developing it.

Among the most popular means of developing strength are: (1) calisthenics, (2) isometrics, (3) metal springs, (4) rubber cables, and (5) weights. All impose demands upon the muscles. All require the muscles to do work beyond that which can be done comfortably. However, only through the use of weights can the overload principle be most beneficially employed in the development of specific muscles used in wrestling.

None of the other methods have the advantage of such a close degree of control. The use of weights provides a basis for controlling the intensity and duration of the resistance imposed with considerable accuracy. Progression can be observed and recorded. Moreover, weights can be adjusted to suit individual capacity.

Adjustable weights provide a basis for evaluating increases in strength while serving as a means of continuous motivation. By gradually increasing the weights being used, there is an assurance that the overload principle is being adhered to. In addition, any and all the muscles of the body specifically used in wrestling can be developed

* to their individual capacities. These factors, in combination, make weight training the most effective method of developing strength for wrestling.

Progress in the development of strength is evidenced in two ways. Increases in the amount of weight handled and increases in the number of repetitions a given amount of weight can be lifted (up to a point) are proof that strength is improving.

While the value of supplementing wrestling with weight training is becoming more and more recognized, the problem of selecting those exercises which will do the most to complement efforts to achieve strength still persists. The selection is difficult because of a lack of conclusive evidence regarding which muscles are primarily used in wrestling. Although research studies suggest the need for a certain amount of strength, there is no available literature which stringently identifies the major muscle groups used in executing wrestling techniques. Unfortunately, the failure to distinguish which muscles are most commonly employed in the sport has made it difficult to select exercises in planning conditioning programs. Since no study identifies the major muscle groups used in wrestling, selection is simply a matter of chance.

Each of the hundreds of skeletal muscles in the body has a specific action that is peculiar to itself. In planning a weight training program, it would be a mistake not to take into consideration those muscles that are used most commonly in wrestling. Any such program should emphasize developing strength in those muscles. A poorly planned program can be of little value. Exercises which do not contribute to those specific muscles should not be included. Only those which are particularly designed to strengthen the muscles associated with wrestling should be chosen.

There are many exercises that might be beneficial. However, only those which engage the muscles in a manner similar or identical to the actions of the wrestler should be selected. The importance of exercising these muscles in the same form they are used while wrestling cannot be overemphasized.

A coach leafing through much of the available literature will likely become confused by the wide variety of exercises suggested. His interest is primarily in those which will do the most to develop the strength required for wrestling success.

There is no shortage of opinions regarding which exercises are most beneficial. Authors disagree as to which exercises do the most to develop strength in wrestlers. While one emphasizes the importance of one set of exercises, another places his faith in a different, but often-

times similar list. Perhaps it is this inconclusiveness that accounts for much of the confusion. Since no list of recommended exercises can be said to be completely accurate, none can be said to be completely wrong.

With this in mind, the writer conducted a survey of available textbook literature relating weight training exercises to the development of strength for wrestling. The purpose of the survey was to discover which exercises were most commonly selected by authors. A bivariate table was constructed as a means of pinpointing the most popularly listed exercises by authorities in the fields of weight training and wrestling. Among nine books surveyed, seven exercises were selected. These exercises are listed in the table below.

TABLE 2
Bivariable Chart Showing Frequency of
Exercises Selected by Authors

	Amer. Assoc. for HPER	Camaione & Tillman	Dratz, Johnson & McCann	Hoffman	Keith	Kapral	Murray & Karpovich	O'Shea	Rasch & Kroll
Rowing	X	X	X	X	X	X	X	X	X
Bench Press	X	X		X	X	X	X	X	X
Curls	X	X	X	X	X	X	X		X
Standing Press	X	X	X		X	X	X	X	X
Squats		X	X		X	X	X	X	X
Pull Overs	X		X	X		X	X		X
Sit Ups (weighted)		X			X		X	X	

EXPLANATION OF BIVARIABLE CHART

The purpose of the bivariate table was to determine which weight training exercises were most commonly recommended by authors of weight training and wrestling texts. Across the top of the table are the names of the authors of nine weight training and wrestling books. The left-hand column contains a list of the seven most frequently chosen weight training exercises for developing strength in wrestling. Any square on the table filled in with an "X" indicates the author listed above suggested the use of the exercise named in the left-hand column for developing strength in wrestling.

ANALYSIS AND INTERPRETATION OF DATA

Within the books surveyed, 35 types of exercises were listed for developing strength for wrestling. Seven of the 35 exercises appeared in four or more of the surveyed books. The analysis and interpretation of data is limited to these seven exercises.

* The data in Table 2 show that rowing (standing and bent over) was the favorite exercise among the authors. The bench press, curls, and the standing press were the next most popular exercises.

The fifth most commonly mentioned exercise was squats (partial and full). Pull overs (straight and bent arm) and weighted sit-ups ranked sixth and seventh respectively.

Three of the top four exercises chosen (rowing, curls, and the standing press) are concerned with strengthening the arms. The body area that received the second most emphasis was the chest. Both the bench press and pull overs are directed toward developing this part of the anatomy. The final two areas of the body to which the authors focused their attention were the legs and the abdomen, in that order. Squats and weighted sit ups primarily concentrate on building up these areas.

CONCLUSIONS AND RECOMMENDATIONS

Muscular strength is perhaps the most important single factor in wrestling success. It can be built faster by coupling weight training with wrestling than by wrestling alone. In designing a weight training program, care must be taken so that exercises of dubious merit are not included.

Research has failed to advance supporting evidence for the inclusion or omission of various exercises for developing strength in wrestling. Since it is impossible at the present time to determine accurately which exercises are most beneficial, a survey was taken among leading figures in the fields of weight training and wrestling in order to get a consensus of opinion as a practical solution to this perplexing problem. Rowing, bench press, curls, standing press, squats, pull overs, and weighted sit ups were the most commonly mentioned exercises. They emphasize developing strength in the arms, chest, legs, and abdomen. It is recommended that any program of strength development for wrestling incorporate these exercises.

13

The Significance of Wrestling Endurance

ENDURANCE IS THE ABILITY TO ENGAGE IN REPETITIVE PROLONGED ACTIVITY without experiencing exhaustion or undue fatigue. In its broadest sense, it encompasses all the factors that enable a person to sustain performance to the point where fatigue sets in, thereby lessening efficiency or limiting further effort. It is primary dependent upon the efficiency of the cardiorespiratory systems.

Endurance is one of the most significant aspects of success in athletics. Many training programs and parts of programs are identified as enhancing endurance, and the possible benefits of participation in a sport such as wrestling are directly related to the effects of endurance training. Therefore, an important question is, "What is the significance of endurance?"

Participation in wrestling can result in the development of balance, agility, flexibility, strength, power, coordination, and endurance. Of these qualities, the last, endurance, is of primary importance.

The nature of endurance, particularly the physiological effect it has upon developing a more efficient functioning of the cardiovascular and respiratory systems, may be revealed by examination of its relationship to the expenditure of energy.

Practical application of the knowledge of how endurance relates to energy expenditure is based upon an understanding of the fundamental principle of intelligent and efficient conservation of energy as evidenced through the proper employment of body movement. It is only through such understanding that the relationship between various movements of the body while wrestling and the enhancing of endurance can be identified.

The importance of learning correct movement mechanics in the acquisition and perfection of wrestling skills as it relates to the physiological benefits of increased endurance often is unrecognized. In other

words, the influence that skilled movement has upon improving the capacity for continuous exertion has frequently been overlooked.

There are two ways that a skillful movement can reduce energy expenditure and, thereby, contribute to improved endurance. The first is by efficient conservation of energy. This requires further explanation and amplification in order to be fully appreciated. For instance, the ability to move is fundamental to competition in all sports. But the ability to move effectively is quite different from just being able to move. This ability is developed through experience. It can be developed most readily when taught instead of being learned through trial and error. When correct patterns of movement are properly taught, movement is more physiologically economic, perfectly timed and correctly adjusted to produce the desired results.

While attempting to perform a new movement, many muscles that do more to hinder than enhance performance are likely to contract. By practicing the correct movement, useless and extravagant contractions are gradually eliminated and the pattern is done with greater ease and more efficiency. The more the correct movement is practiced the better it is learned. As proficiency in executing the pattern improves, the number of unnecessary muscular contractions becomes fewer. This results in a reduction in the amount of energy required to perform the movement.

In order to conserve energy, the level of performance must be high. Skillful performance results from efficient movement. It is characterized by an absence of unnecessary muscular contractions. The smaller the number of wasted contractions the greater the efficiency of movement. The more efficient the movement, the greater the amount of work that can be accomplished for the amount of energy expended. The more work that can be done the longer the performance can be continued. Thus, a harmonious cycle is established whereby endurance is prolonged to the degree the skill is perfected in performing a movement pattern. The greater the skill the less the energy expenditure resulting from the elimination of unnecessary movements. In the simplest terms, it amounts to doing the most with the least effort.

The second means by which an increase in the effectiveness of movement contributes to improved endurance is through the intellectual expenditure of energy. By intelligently expending energy it is possible to exhaust an opponent sooner.

The vast majority of wrestling matches are won on points rather than pins. Therefore, it stands to reason that the logical method of beating an opponent would be to wear him down. Wearing him down means decreasing his endurance or capacity for sustaining performance.

The two fundamental positions from which an opponent can be fatigued are: (1) on the bottom, and (2) on the top. If an opponent is made to work harder trying to escape than the man on top has to work to maintain control, he will expend more energy. He can be made to work harder if he has to carry the extra burden of the top man's weight. The longer he has to carry the weight while attempting to escape the sooner he will tire and the more likely it is that he will lose. By carrying most of the weight he also lightens the top man's load. The energy the top man saves will contribute to his endurance capacity and can be used later in the match, if necessary. The fact that the opponent has to expend more energy carrying his own weight plus part of the top man's, coupled with the idea that the top man has a lighter burden, will eventually result in his defeat.

While on top, it is most desirable to move on the feet, since this forces the opponent to constantly carry most of the weight. If the top man allows his knees to touch the mat, he lightens his opponent's burden and increases his own.

The second fundamental position from which energy can intelligently be conserved is on the bottom. To conserve energy intelligently, the bottom man should attempt to get to his feet as soon as possible. While down on all fours, energy is being wasted carrying an opponent's weight around. However, in a standing posture it is virtually impossible for the opponent to put his weight on the bottom man. As a result, he will have to carry the bulk of his own weight and will have no particular advantage. While standing, the bottom man will only carry his own weight.

In the referee's position, the wrestler on the bottom will tire sooner if he permits any part of his body, other than the soles of his feet, to touch the surface of the mat. By maintaining altitude he makes it very difficult for his opponent to put any weight on him. Therefore, he is less likely to tire as soon and is in the best position to force the opponent to carry the burden of his own body weight. Also, without the extra weight, he can move more efficiently and with less difficulty.

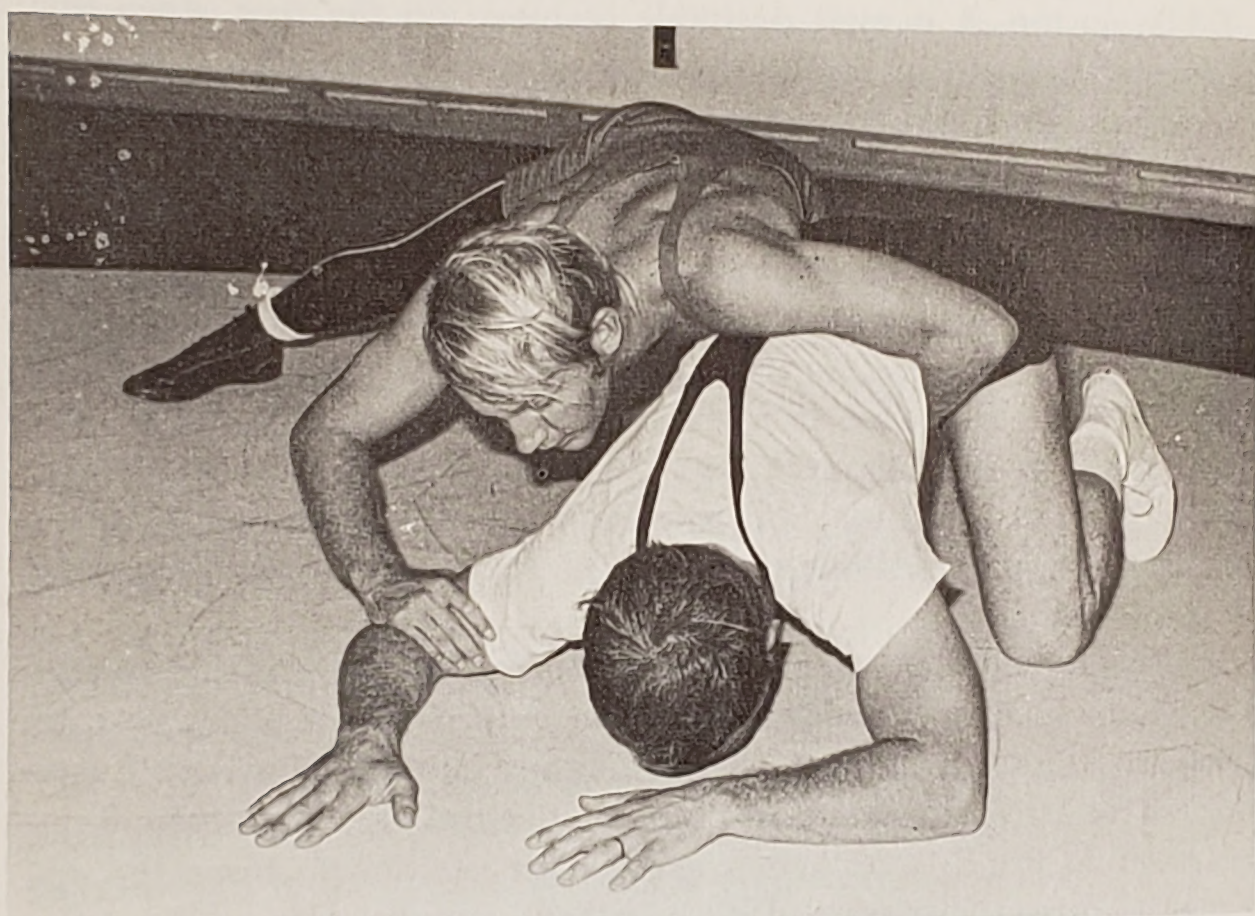
DRILLS ON MOVEMENT FUNDAMENTALS

The main objective of the following drills is to assist the wrestler in getting the "feel" of the positions that need to be assumed in order to do the most to enhance his endurance. These drills require that certain positions be assumed repeatedly in order to learn thoroughly and employ effectively the principle of energy expenditure. They are based on the idea that the wrestler should, whenever possible, move himself instead of his opponent.

Back Spinning Drill

This drill begins with one wrestler down in an all fours position with his head lowered. The top man places his chest, as a pivot point, on the back of the down wrestler. He spins around and around in quarter, half, and full turns making the bottom man bear his weight. He spins as rapidly as possible, and changes directions on the coach's command. He keeps his legs well back out of reach and uses them as seldom as possible for propelling his body around. He uses his hands to maintain balance, but never allows them to touch the mat.

A variation of this drill is to have the bottom man raise an arm to block the legs of the top man momentarily, if he fails to keep them out of reach.



32A Back Spinning

Floating Drill

The starting position of the wrestlers is the same as for the back spinning drill. This time, however, the bottom man is permitted to do anything to dislodge the man on top by the speed of his movements. Twisting, crawling, sitting out, and making circular turns are techniques commonly employed. He may not, however, stand up or use any grip, lock or wrestling hold.

The top man cannot use his hands to hold on, although he may use the inside of his arms to maintain a floating position. Almost all his weight should be over the bottom man and very little supported by his legs. He must move with the bottom man while attempting to keep his chest in contact at all times. This drill gives the top man practice in constantly being aware of the bottom man's movements and having to move with him in order to keep his weight on him.



33A Floating

Moving Up Drill

From the referee's position, the bottom man attempts to gain a standing posture, thereby removing the weight of the top man from his back. He is allowed to attempt anything that will enable him to secure a standing position. The top man must attempt to keep the defensive wrestler from gaining altitude.

Movement is used in executing every technique in wrestling. The need is for understanding the relationship between the skillful execution of that movement and the degree of expenditure of energy.

The more often a movement is practiced the more skillful the wrestler becomes. The more skillful he becomes the more improved his endurance becomes. The better his endurance becomes the greater are his